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ARCHITECTURE AND COMMERCE.

ON another page we review Mr. Gordon Selfridge's book, "The Romance of Commerce," and we take the opportunity of discussing the subject from an architectural point of view.

At an early age the architectural student forms his impressions of commerce which are generally based upon the acceptance of the ambiguous significance attached to the word "commercial." The commercial outlook, he believes, connotes everything that is worst because it forces architecture to conform to conditions which seem to him to be flagrantly opposed to the accepted canons of academic architecture. In his mind, the sequence of thoughts runs something like this: Commerce, commercialism, trade, industrialism, manufacturers, and petty shopkeepers; but the man who commissions an architect to build his city offices and his residence is a merchant prince, a patron of the arts. It is of interest to ascertain whether a man is termed a business man because he looks at things from a practical or common-sense point of view, and whether these qualities entitle us to classify him under the heading "commercial." If these are the qualities which we associate with the business man, there would appear to be a poor case to be argued for the artist and the idealist.

We remember hearing two architects discussing the relationship of art to commerce. One maintained that the wealth of a country depended upon its commerce which provided the money for the encouragement and development of art, the other maintained that it was the work of the artist which enabled the manufacturer to sell his goods. This is an excellent example of a circular argument upon cause and effect, and shows the danger of discussing a subject without regard to first principles. That a great amount of cant is written upon the subject of commerce and art is certain, and when we read that an artist is of the opinion that the public has no real interest in art we should get a truer insight into what he means if he said that the public was not buying his pictures.

The history of commerce makes it clear that wealth in the sense of money and power is based upon commerce, and that the flourishing country rebuilds its cities and becomes the Mecca of the arts. Few architectural students would have difficulty in explaining that the prosperity of the woollen industry in the Middle Ages led to the great era of church building throughout Gloucestershire and Northamptonshire, and in bringing fortunes to the local "woolmen" it gave us the small towns and villages scattered about the Cotswolds, so full of finely-built and beautiful houses. The statement that the commercial outlook makes a man insensible to art is difficult to accept, when history proves quite the contrary. The munificence of the wealthy merchants is reflected in many fine old buildings and a reference to the title pages of some of the old architectural books will show that they were dedicated by humble servants "to the patrons possessed with Power and Wealth who alone are able to execute the Artist's plans." There remains the argument that we have not produced buildings to equal those fine old houses and hospitals of an earlier generation. But is this entirely the fault of the commercial outlook? The loss of tradition is not made good by many years of book-learning, and if commerce sets the problem it is not certain that the architect has always been equal to it.

If we take for granted the philosophic argument in its order—commerce, wealth and art—we have the feeling that there has been a tendency to confuse two quite distinct phases in the relations of commerce to art. No one will deny that many wealthy men spend their money in encouraging the arts, but it is beyond all question that commerce in many of its processes has had the tendency to neglect some of the decencies of life. Manufacturing—or, to adopt the general term, industrialism—is an essential part of modern commerce and trading, and it will be admitted that many of its results are ugly and harmful. It has heaped up dumping grounds of refuse, built rows and rows of ugly houses with tiny back-yards, and produced its goods in cheerless-looking factories and workshops. In short, apart from the Factory Acts for the protection of the workers, industrialism, with all its claims for the necessity for publicity and fine pictures on hoardings to advertise the quality of its goods, seems to have been blind to the ugliness which it creates around its own doors. There are certain notable exceptions, of course, and we are only expressing the thoughts of many when we say that manufacturers would do a greater service to the community by trying to lessen the malign effects of their factories than by advertising so much the purity of their goods. There is a clear distinction in our minds between commerce at work and commerce buying its art treasures.

But there is a tendency amongst architects to assume that they are, to some extent, self-appointed censors of commercial morality; and that architecture should not be debased by being brought into contact with cheap and petty trading, and by being used as an advertising medium. We confess that we cannot follow this line of reasoning. To begin with, no architect is capable of determining whether any article is dear or cheap; it would not be sold if there were not a demand for it, and it may be, and probably is, good value at the price. If we cannot pay the price for silk apparently we must not have cotton, and architecture is to be allowed to have qualms about the pedigree of the articles for sale and the relative values of baby foods, tobacco or beer! Arguing on these lines we might expect another outcry that the petty traders, whose buildings were of the same class as their cheap goods, might, at least, try to forget their commercial instincts for a little and think of other people when they erect their buildings. One has only to look at the standard of design in some of the London streets during the last ten years to prove that an increasing number of merchants and shopkeepers have realised their civic responsibilities, and architecture has responded nobly. That the standard will improve as time goes on is beyond doubt, if architects are able to forget, as a correspondent puts it, "that there can be such a thing as architectural snobbery."

It is evident that a fine building can act indirectly as an advertisement for the merchant, but to our mind there is a certain amount of frankness about the individual who is willing to pay for a fine building and admits that he hopes he will reap the benefit of it during his lifetime. He is more to be commended than the collector of pictures and first editions whose mind runs in the groove of posthumous values. An architectural masterpiece brings no inflated posthumous value to the owner, nor would we like to encourage a world where the dead stifles the living. We can safely leave posterity to deal with the commercial buildings which we hand down to it, and if the race is decadent (as many seem to think) then we will leave some fine records which will express the measure of our commercial age.

"Architectural snobbery" represents a conventional form of thinking which is fatal alike to the architect and to the true development of any living architecture. The essence of snobbery is that many things must be taken for granted, leading to a false standard of values. For instance, no architectural student would hesitate to set down the various qualities he considers should be expressed in a bank—dignity, solidity, and a sense of prestige. These are the architectural qualities which we expect to see in a bank; but it is bad logic to attach these attributes to a bank and deny them to other buildings. The motor-car has had a more marked effect upon the social life of the country than any other factor we know of. It has already altered the outlook upon architecture and the arts, and its influence on the future will be even greater. If we assume that the influence of the motor-car has not been beneficial to architecture, it is neither a sound excuse for designing an ugly building for a motor company, nor a reason for giving to it the highest form of architectural expression. We believe that commerce has set the problem, and if architecture has not in the past always responded successfully, it is chopped logic to say that commercialism is responsible for the bad architecture. We should like to see our factories, workshops and houses invested with a little more imagination and beauty, and we believe there will be a wider appreciation of architecture in relation to commerce when architects can prove to a critical public the excellence of their general judgment on all matters relating to their profession.

NOTES.

A National Memorial.

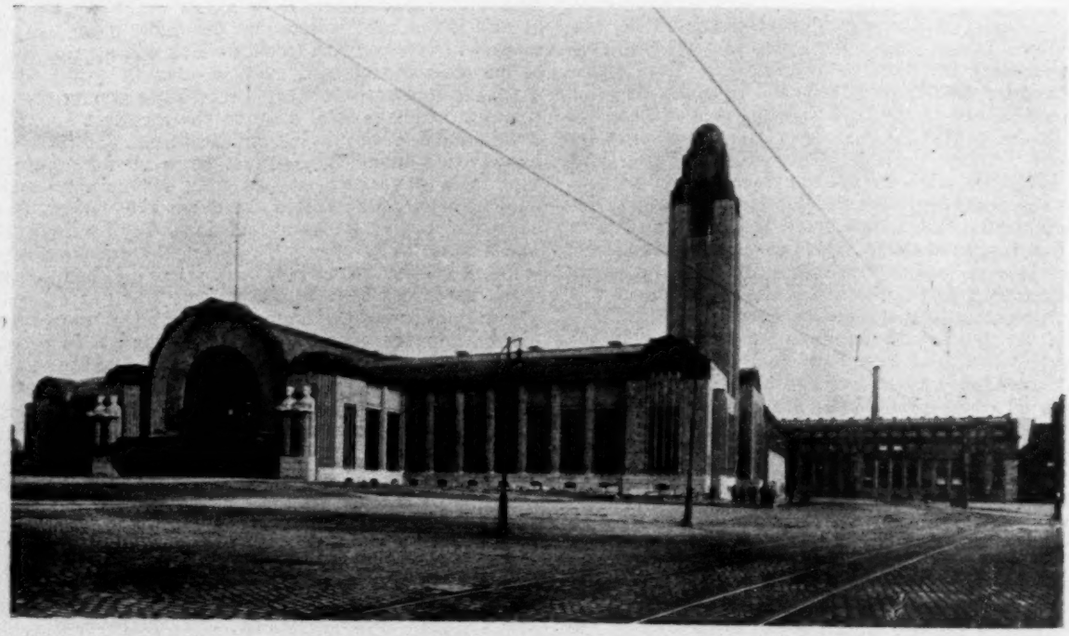
It is something in its favour rather than a criticism that we are in the tenth year since the declaration of war without a national war memorial being projected. The Cenotaph will hardly be regarded as a national memorial of the war, being more identified with the day of the Armistice. A contemporary, uneasy at the delay which has taken place, suggests that the object should at least be recognised by the appointment of a Commission to prepare plans. But we are more in favour of a legislative than an administrative body in the first instance, one, not to prepare plans, but to decide what sort of memorial is desirable. It is not because of any lack of enthusiasm for what is called the Charing Cross scheme that we hesitate to regard any such desirable improvement as quite occupying the place for such a war memorial. It appears to us that so solemn a commemoration requires something detached from ulterior objects, and to become an end in itself. If it is to concentrate the thoughts of a nation upon itself, commemorating events so vast and terrible in their consequences, attention should be directly, not indirectly, focussed upon it, and though the Charing Cross scheme might include a direct memorial through statuary or other means, its object of creating a very much needed improvement in the centre of London is not quite the one which should be uppermost in our thoughts. There are some who will hesitate to affirm that the present time favours such a national memorial as we suggest, and it is for this reason that our thoughts should first be centred on the consideration of the nature of such a memorial, and the opportunities for getting it, rather than preparing plans. *Festina lente* may well apply in thinking of such a memorial.

Gilbert's Fountain.

The discussion which has arisen concerning this fountain is evidence of the appreciation of the work of a fine sculptor, whose life has suffered, no less than his work, through want of consideration; and it would be more than a graceful act to secure the nearer realisation of the sculptor's aim, which would be still more mutilated by curtailing the space around his fountain. If traffic necessities compel this, its removal to a site offering better accommodation is clearly desirable. We do not think that London would be any the poorer by the removal of the Shakespeare statue from the garden of Leicester-square, and we are inclined to regard the site as admirably suited for Gilbert's fountain. The water playing amid such surroundings would do no harm if the breezes carried its cooling spray on to the surrounding stones, and it offers the advantage that no traffic considerations intervene to suggest practical objections. Though advocated by Sir H. M. Spielman in a contemporary, the triangular piece still unoccupied in front of St. George's Hospital does offer objections on this account, and a more undisturbed area seems clearly desirable. It would be some repayment of a debt of justice to Alfred Gilbert long overdue, one which his brother sculptors should feel most deeply, if they were consulted on the matter, for an artist who has done such fine work for his country should receive the consideration which is due to such service. Too faithful and sensitive for this rough world, we may say of him, as Dr. Johnson thundered back to one who criticised Goldsmith, "Let not his faults be remembered, for he was a very great man."

Canterbury Cathedral.

The controversy that has arisen between the Society for the Protection of Ancient Buildings and Canon Mason, representing the Cathedral authorities, suggests some excess of zeal on the part of the former. It would be a pity if there were failure to recognise the very much greater appreciation prevailing of the need for preserving ancient fabrics, or to direct our criticism indiscriminately. The Secretary of the S.P.A.B. would have been better advised to acknowledge his mistake in mixing up modern masonry with old, as in the case of the northernmost of the western towers, instead of going off on a number of generalisations. Nor can we accept as axiomatic that in the case of worn mediæval work we are never to make good in the sense of renewing. It appears to us that each case has to be settled on its merits, and on practical acquaintance with the conditions prevailing, and that rather worn-out phrases about "spiritless imitation," "puerile efforts," &c., are not very helpful in themselves. To talk of "the dignified making of history in our own times" is not a little self-conscious, and knowing the excellent work done by the Society in the past, if their practical efforts were superseded by a body of "superior" persons, who took more note



Helsingfors Railway Station. Eliel Saarinen, Architect. (*See p.* 204.)

Exeter War Memorial: "The Nurse." MR. JOHN ANGEL, Sculptor.

of theories and phrases than the more useful and practical service they are established to bestow, it would be very disappointing. We are so entirely on the side of the Society in its aims that it is only our desire to see it keep in touch with life that actuates us in the desire that it should avoid any appearance of "intellectual superiority."

Architecture as a Profession.

THE following quotation from Ruskin (which forms the title page to Mr. Gordon Selfridge's book, which we review on page 206) is of academic interest to architects, who no doubt feel that the omission of architecture from the hierarchy of intellectual professions is because Ruskin considered it to be an art:—"Five great intellectual professions . . . have hitherto existed . . . in every civilised nation: The soldiers to defend it; the merchants to provide for it; the pastors to teach it; the physicians to keep it in health; the lawyers to enforce justice in it; and the duty of all these men is, on due occasion, to die for it."

Old Masters.

IT is both curious and interesting to note the changing values of pictures at the recent sales at Christie's. It is difficult to think of old masters without associating them with appreciating posthumous values, but apparently fashions change in pictures as in everything else, otherwise it is difficult to account for the prices obtained for some of them being considerably lower than the prices paid twenty years ago. No one, we suppose, is foolish enough to believe that prices have any relation to art values, and a fall in prices is an excellent corrective to those who have hazy ideas about art and art collectors. It seems difficult to reconcile the high prices obtained for old masters with the general view that money is scarce, but the explanation is simple if we realise that if the stakes are high, so are the profits, as a rule. We may find it a fortunate thing for architecture that it cannot be collected, even if we miss the art jargon of the collector and erroneously assume that the absence of it indicates a lack of interest on the part of the public. When we can dissociate art from humbug it will come as no surprise to us to learn that good prices were obtained for the furniture and china which were formerly the treasured art objects of Bramall Hall, but that the Hall itself has been awaiting a purchaser for eighteen months. Dealers and collectors can only live upon art that can be carried about conveniently, but let us not mistake a form of artistic criticism which embraces both an industry and the joy of the highest bidder. It is difficult to visualise a state of civilisation where architecture became more valuable as it became older, provided the signature was genuine. The hopeless state of civilisation confined to obsolete buildings, the creation of artificial scarcity values, the stifling of modern art, and the position of architecture as a useful art, suggest an ironical treatment which would have appealed to the author of "Erewhon."

Exeter War Memorial: "The Sailor." MR. JOHN ANGEL Sculptor.
[This memorial was illustrated in our last issue.

GENERAL NEWS.

Archæological Discovery.

At Catterick Bridge Hotel, near Richmond, Yorkshire, where excavations are being made by Sir Henry Lawson with the object of extending the hotel, the remains of a chantry chapel have been discovered.

Women Surveyors.

Two women surveyors are now working under H.M. Office of Woods on that part of the Crown estates which has been for many years under the receivership of Miss H. M. Jeffery, whose offices are in the neighbourhood of Cumberland Market, Regent's Park.

Glasgow Housing and Health Exhibition.

Many new features will be introduced in the forthcoming Housing and Health Exhibition which the Corporation of Glasgow have arranged to take place in the Industrial Hall, Kelvin Hall, from October 1 to 20. This will be the fifth show of the kind promoted by Glasgow Corporation, and already it promises to be a great success. Applications for space so far have been exceedingly good. Outstanding sections include building materials, sanitary appliances, lighting and heating, decoration and furnishings. The display of goods in all these departments will be such as to warrant a large attendance of the general public. A year ago the Exhibition was visited by many thousands of spectators, and the forthcoming show, in view of its additional attractions, is sure to be much more largely attended.

The Shepway Cross at Lympne.

The Shepway Cross, which has been erected at Lympne, overlooking Romney Marsh, was unveiled and dedicated on Saturday at a Grand Court of Shepway, specially summoned by the Lord Warden of the Cinque Ports (Lord Beauchamp), who has had the cross erected. The cross is on the lines of an old English wayside cross. It consists of a tall shaft let into a base block, which is decorated with the arms of the Archbishop of Canterbury, Lord Beauchamp, the family of Lygon, and the Cinque Ports. The cross bears the crucifix, with figures of Our Lady and St. John, and on the back are the Virgin and Child. It is of Portland stone, and was designed by Mr. F. E. Howard, the work being carried out by the Warham Guild.

Incorporation of Architects in Scotland.

At the first annual prize adjudication, held last week in Edinburgh, under the new prize scheme of the Incorporation of Architects in Scotland, the jury announced their award as follows: The Rutland Prize (certificate and £50) for the study of materials and construction, to Mr. David J. A. Ross, A.R.I.B.A., 25, Richmond-terrace, Aberdeen. The Incorporation of Architects' Maintenance Scholarship of £50 per annum for three years, to Mr. Frederick R. Wylie, 2, St. Mary's-place, Glasgow. The Rowand Anderson Travelling Studentship (silver medal and £100) has not been awarded, none of the designs submitted being considered to be of sufficient merit.

Brighton War Memorial.

With reference to the description of Brighton war memorial in last week's issue, we are informed that the bronze work and engraving were executed by Messrs. Cashmore, Bowman & Co., Ltd.

Working-Class Housing Scheme.

Lord Bolton, of Hackwood Park, Basingstoke, has initiated a scheme to relieve the housing difficulty. To facilitate the building of working-class houses he has allotted frontages on four of the main roads leading out of Basingstoke, and convenient to the centre of the town. Each of the sites covers about a quarter of an acre, and all are on roads which are already sewered, and have water, gas, and electricity services. The sites will be allotted to working men.

Memorial to Welsh Shepherd Poet.

The memorial being erected at Trawsfynydd, to Hedd Wyn, the young Welsh shepherd poet, who fell at Pilkem Ridge, and whose poem to "The Hero" won the choir prize at the Birkenhead National Eisteddfod in 1917, six weeks after his death, is nearing completion. It is a life-size bronze statue of the poet, who is depicted in his working clothes, by Mr. L. S. Merrifield, whose "Williams, Pantycelyn," at Cardiff is already well known, and whose war memorial for the Merthyr Tydvil scholars was shown this year at the Royal Academy. The unveiling ceremony is fixed for to-morrow (Saturday).

Obituary.

The death has occurred of Mr. Robert Alexander, R.S.A., of Edinburgh.

Building Trade Wages.

A meeting of the London Master Builders' Association was held to discuss the request from the Operatives' Federation for the re-classification of the London area, the effect of which would increase the rate of pay in the metropolis. At the close of the proceedings, which were private, the following official statement was issued by the London Master Builders' Association: "With regard to the application which has been made by the National Federation of Building Trade Operatives (London District Council) for the upgrading of the London district, it was unanimously decided at a special general meeting of the London Master Builders Association that no support could be given to the operatives' request for a departure from the arbitrators' award of May 15, 1923."

A delegate meeting of the London Regional Council of the operatives' federation has been convened for this (Friday) evening to consider the reply.

COMPETITION NEWS.

Pavilion, Tunbridge Wells.

Mr. E. Guy Dawber, F.R.I.B.A., has made the following award in this competition:—

First premium, £150, Mr. E. Vincent Harris, F.R.I.B.A., of St. James'-square, S.W.;

Second premium, £100, Mr. Septimus Warwick of 13, Somers-road, Hyde Park, S.W.; and

Third premium, £50, Messrs. Franklin & Deacon, of Luton. These designs are illustrated in this issue.

Halifax.

FOR THE CORPORATION.—Plans and reports for lay-out of Bull Green site and part of centre of the town adjoining. Premium, £50. Sending in day, October 1.

The conditions of this competition are not in accordance with the regulations, and members of the R.I.B.A. and Society of Architects are advised to take no part in it.

Ellesmere-street Wesleyan New Church and Schools, Warrington.

The Committee has extended the date of delivery of plans in this competition from August 8 to August 15. It is their intention to award prizes to the successful competitors.

Members and Licentiates of the R.I.B.A. are advised not to take part in this competition because the conditions are not in accordance with the regulations of the Institute.

Memorials to the Missing.

FOR THE IMPERIAL WAR GRAVES COMMISSION.—Designs of memorials to the missing on four battlefields on the Western Front. Sending-in day, January 1, 1924. (See our issue for August 3.)

Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given):—Singapore College (Jan. 1, 1924; March 30). Greenwich Baths (Aug. 25; May 4). Hull Art Gallery (Nov. 5; May 4). Mint competition for plaques (Sept. 30; May 25). Birmingham Masonic Temple (Sept. 12; June 22). Colour scheme (Sept. 30; June 29). Glasgow Pavilion (June 22).

Tunbridge Wells Pavilion Competition. (*See p.* 205.)

CORRESPONDENCE.

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Architectural Competitions.

SIR,—I have been interested in reading the recent correspondence in your columns on the subject of architectural competitions. It appears to me that there can be no question of doubt as to the necessity of reorganising our present system, and hope that the recent election of a progressive Committee at the Institute will provide the opportunity. In the past it has been the prerogative of the President to appoint assessors, and on many occasions when I have been a member of the Competitions Committee the suggestion that a jury of three should be appointed has been turned down by the then occupant of the chair. It would be a popular move on the part of the new President to turn over to the Competitions Committee this out-of-date and autocratic perquisite.

If it is a question of the jury system costing more for fees than the old system, surely it would not be impossible for those architects of eminence who are honoured by being appointed assessors acting in special cases without fees. I think this financial aspect is only an excuse for the retention of an out-of-date system, and I am quite sure that the often illogical and unsatisfactory results obtained in public competitions would be largely eliminated by the adoption of the jury system.

ROBERT ATKINSON,
Director of Education,
Architectural Association.

SIR,—I think the time has come when, in the interest of the profession, a drastic revision should be made in the conduct of architectural competitions. The present system depends for its success upon the assumption that the professional assessor is infallible, and I, as a member of the profession, would be the last to dispute the truth of the assumption! But I am also a member of the general public, and as such can take a wider outlook than as a member of my profession.

The point is, can occasional errors of judgment be further arrested, and can better methods of assessing competitions be devised that will ensure increased confidence in, and be more attractive to, the promoter? I am aware, both from particular and general knowledge, that at the present time there exists amongst promoters or prospective promoters of competitions considerable hesitancy in entrusting the settlement of competitions entirely to a single member of our profession. There is a general feeling that he who pays the piper should at least have a slight interest in the calling of the tune. It is my opinion that the time has come when a system more like the American system might be adopted. Incidentally, I understand that the American system provides for the direct representation of promoters on the board of assessors at important stages in the procedure of the competition. I think that the profession would gain everthing and lose nothing if it were to adopt the panel system of professional assessors, to whom I would add at least two representatives from the promoters. Incidentally, I feel that the selection of professional assessors, which has always been the especial privilege and duty of the President, ought to stand. It is one of his most responsible duties, and, on the whole, he has in the past chosen well. There have been from time to time well-supported recommendations to adopt the panel system, as in France, and the objections are, I suppose, that a panel will not carry out their work in the same responsible way as does the single assessor. It is also advanced that the fees would be excessive. These arguments appear to me to be fallacious. At the worst there will always be found amongst the panel at least one member who will attach that importance to his responsibilities which the case deserves; and as to the smaller fee, surely the honour is, as in France, the chief reward.

The question of representation from the promoters is more controversial. I would suggest that the architects should always outnumber the laymen by at least three to two. The chief objection to their inclusion would then be that very often they might be personally interested in particular schemes; or that their limited knowledge of technicalities would incline them to support the showy and superficial rather than the skilful scheme. It is my view that in practice they will be beyond suspicion as regards a friendly scheme, and that the professional members will easily convince them as to the superficial values of mere draughtsmanship and bad architecture.

The real and important advantage to be gained in allowing the promoters to have a voice in the selection would be that they would at least ensure that the most obvious requirements were met. They would obviate the making of awards mainly on theoretic and remote questions of style and personal feeling as regards architecture; and, most important of all, they would be allowed to feel that at least they had had a share in the selection.

London. S. D. ADSHEAD.

SIR,—Mr. Robertson's article on the above subject is particularly opportune. It would ill become me, as a worker in Cardiff, to suggest that the prevailing method of assessing public competitions has invariably led to bad results, for some of our best buildings owe their existence to that method.

It has been said, however, that there is some good in the worst of us, and, as with men, so with systems. The existing method has doubtless resulted well on many occasions, and certainly any defect caused by it in the work of either assessor or competitor has in the main been effected unconsciously—for all would agree that our assessors have worked the system as well as it could be worked. The fault was not one of individuals, but was inherent in the method. It has left its mark on the history of English architecture, for the future historian will doubtless have to refer to the "competition architecture" of recent times.

And just as there is, no doubt, something less good in the best of us, there will be weak points in the best method of running competitions—for it may well be impossible to devise a perfect scheme. It is even possible that competitions in themselves are inherently wrong, but this possibility is vastly outweighed by the great importance of the competition as an opportunity for less well-known men, and, what is more important, for the development of architecture.

And the jury system certainly seems to eliminate the main defects of the method normal in this country. For, under the jury system, competitors are far more likely to tackle the problem before them from their own point of view, and the promoters of competitions will doubtless prefer to leave the task of settling a design to a jury (on which, in some cases, there might well arise the necessity for appointing experts other than architects), rather than to a single assessor.

In the interests of our profession, I feel, however, that the main advantage of the jury system is the undoubted increase of opportunity which it gives for development in an art which can only take its proper place in life when given the fullest possible freedom for serving the community under changing conditions.

Cardiff. W. S. PURCHON.

Our Modern War Memorials.

SIR,—Would Mr. Vale be so kind as to enlighten your readers on the following points raised in his letter? Which is the "largest and most costly memorial" in London, and of what "pagan memorial dating from the fifth century B.C." is it a "complete copy"? Also, what is the meaning of "this has not a single detail to distinguish it from a memorial to the late Mr. Socrates"?

London, W.C. H. C. B.

A Mid-Metropolitan Artery.

SIR,—With reference to my communication in your issue of September 22 last on the above subject, might I point out that at least one of the sections is worthy of consideration whilst the question of work for "unemployment" is under review? One only requires to drive in the vicinity of the Green Park to find out the awkwardness of the cross-communication there. For certain classes of traffic there is actually no access to Birdcage-walk and Victoria-street from Piccadilly and *vice versa* between Whitehall and Hyde Park Corner, and for other traffic the only route is St. James's-street and *via* the Mall. In the proposition above referred to the southern end of the new main artery northwards would be constructed as a sunken road in the Green Park, joining up the Mall, and affording communication with Piccadilly. It might be continued *under* the Mall, and thus afford direct communication with Birdcage-walk for *all* classes of traffic in a north to south direction.

London, W. "O.B.I.T."

HOUSE & HOME BUILDING IN SOUTH AFRICA.

HOUSING shortage after the great war affected some parts of South Africa very much as it is affecting England. Soldiers who had left home as youths, dependent upon their parents, returned as men requiring homes of their own. Little building had been done in the meantime, and prices had risen with the increased cost of materials and labour. Temporary shacks and huts were erected to meet the requirements of individuals, but this makeshift accommodation was found to be no more suitable there than here. Various forms of steel huts, almost uninhabitable in a hot climate, were experimented with, and their discomfort mitigated by an internal lining of sun-dried bricks.

This serves as a partial protection against the heat, and while it is not in itself a sufficient defence against heavy rain, is sometimes used under the protection of heavily projecting eaves for the exterior walls of one-story buildings.

On the land native and Dutch colonial tradition in building maintains itself side by side with the imported tin hut, and the suitability of the local style generally appeals to the good sense of the intending house builder.

The lucky accident which introduced Dutch and Portuguese settlers to South Africa established a fashion in building forms essentially appropriate in a hot and sunny climate. Familiar with a flat wall style of design in their own lands, they avoided the creation of ribby and spiky structures in the new colonies. Even to this day the skilful management of surface planes characterises the best of South African architecture. The coat of plaster with which it was necessary to clothe walls built of mud or sun-dried brick, and the light colours which proved useful in refracting the sun's rays and keeping interiors cool, were utilitarian elements of design which have proved of the utmost advantage to architecture in preserving breadth and simplicity which have been sympathetically interpreted in the works of Mr. Herbert Baker and his partners. In a town-planning scheme at East London these qualities are developed in comparatively inexpensive houses designed by Mr. Clifford B. Stocks.

Ten houses have been sold to the occupiers at something like their cost price of £1,100—£1,200, others are let at £8 per month. The houses are detached and stand in small gardens, and the accommodation consists of a living-room, sitting-room, kitchen and three bedrooms, with bath-room and offices. A verandah or stoep shelters the hot north side of the house, and supplies that play of shadow, shade, and reflected light required to build up the artistic character of an elevation suited to a brilliant climate.

ELIEL SAARINEN.

By CAROLUS LINDBERG.

In judging Finland's part in cosmopolitan achievements in the sphere of art and culture, Eliel Saarinen must be mentioned amongst the foremost in the ranks of creative artists. It is not only because he has gained victories both at home and abroad in very close architectural competitions that we are obliged to pause at his name, but also because of the esteem due to a strong artistic personality, whose capabilities, when keeping the broadness of his creations in mind, must be measured by wider standards than is ordinarily the case.

The artistic development of Eliel Saarinen is, briefly, as follows:—During the last years of the last century a group of young and spirited architects, animated by a boundless enthusiasm for their work and a firm confidence in themselves, rose in order to combat the architectural style of the preceding decades, a style lacking in independence and a slave to given forms. The spirit of the age and the enthusiasm received from lands possessing an older culture stimulated the reformers to seek the origin of their creations in their own country, and thus, during the first years of our century, the so-called "new style" based on romantic foundations, took form in Finland as elsewhere.

The name of Eliel Saarinen is intimately linked with the events of this period of architectural development. Together with his nearest friends and fellow-workers, amongst whom Armas Lindgren and Herman Gesellius should be particularly mentioned, he started an architectural office, to which rather important works were soon entrusted, and these were executed and fulfilled according to the principles born on the waves of this new style of architecture. Amongst their works may be mentioned the small, but, in respect to the development of style, quite significant exhibition-pavilion at the World's Exposition of Paris in 1900; certain private and business houses in Helsingfors; the chief mansion on the Suur-Merijoki estate, executed even in the smallest detail according to the spirit of the age; and the artists' home on the shore of Lake Hvittrask, near Helsingfors, in a solitary place of virgin beauty, where the architect now lives with his family. Very typical, although more subdued, is the National Museum in Helsingfors, also a creation of this office.

The frame within which this in many respects fruitful, and in Finland's architectural history very curious and significant, tendency created its product was, nevertheless, for an artistic nature like Eliel Saarinen's, despite its elasticity, too narrow by reason of its limited choice of motives and its style without a foothold in the present time. On account of circumstances, and also because of his own innate force, Saarinen soon withdrew from the narrow proportions and form-scale of the romantic style at home in his struggle for a broader, more personal, independent style, free from traditions; a struggle for cosmopolitan art values, the characteristics of which are a severe systematical grandeur, tranquil monumental lines and an abstract choice of motives for the decorative details. Already in the Hague competition for the Palace of Peace, in which Eliel Saarinen had been invited to take part, he created designs, whose monumental composition attracted attention as compared with many tedious designs, based on former historical styles. In the creation for which he gained the first prize in the competition for Finland's Parliament House, to be situated on Observatory Hill, he further developed the personal tendency of his style, founded almost entirely on the impressions of severe, straight-lined proportions, the monumental effect of which is enhanced by the concentrated result of decorative motives, which is characteristic of Saarinen. The town halls of Joensuu and Lahti, and particularly the large railway station block in Helsingfors, further illustrate this later tendency of Eliel Saarinen, which has sometimes been so severely and trivially criticised.

Typical of this artist is his many-sidedness.

Eliel Saarinen.

Amongst other art interests he has been successful as a portrait painter, and has also devoted himself to the art of town planning and town building. It is also quite natural that a man of his type should be inspired with enthusiasm for creative work on a large scale, where the aim is not limited to the designing of individual houses but where the specialist is offered the direction of the development of entire communities, with their practical as well as artistic organisation. In a couple of excellent plans Saarinen has explained and forecast the development of Finland's capital, Helsingfors, from an artistic point of view, as to town building. The scientifically-appropriate, and at the same time artistically-luxurious, plan for regulating the large building estate of Munksnäs-Haga suburbs and the later-composed general plan of Greater Helsingfors, have an incontestable place amongst the best artistic town plannings of this century.

Through its individuality—free from local influences—its standard and its character Eliel Saarinen's art in Finland represents the architectural tendency according to the measure of cosmopolitan proportions. Many an inter-

The Large Hall, Villa Keirkwer. ELIEL SAARINEN, Architect.

national competition where his building or planning designs have been victorious in a close competition, or where his expertness has been called upon, have raised his name to the rank of the most prominent architectural artists. He gained a prize in the competition for the new capital of Australia, and he was recently placed second in the competition for the skyscraper for the *Chicago Tribune*. The future will prove the significance of the creative work which he is now pursuing in America. Even at present it may be asserted that he has found surroundings suitable to the measure of his capacity as to the character and scope of his tasks.

TUNBRIDGE WELLS PAVILION COMPETITION

FOLLOWING quickly on the result of the Bournemouth Pavilion competition, we have that of the Tunbridge Wells Pavilion, and again find illustration of our modern architects' lack of sympathy or imagination adequate to the occasion. In both places it seems to us that a building of a heavy monumental type was undesirable, but more especially is this the case at Tunbridge Wells, where the site lies in a somewhat narrow valley surrounded by trees (see p. 202). Such a building as is proposed is, we believe, hardly expected to pay its way, but a good deal is possible in the way of making it attractive and pleasant, and one would have been inclined, to think that its exterior might with advantage have been largely an affair of loggias and balconies with possibly ground floor accommodation for teas. One may assume it would have considerable attraction as a place for concerts, lectures, meetings and dances in the winter, and to get the most out of it the two-fold aspect of winter and summer use must be well considered. Even a place with such natural advantages as Tunbridge Wells cannot afford to stand still, and a beautiful little valley like that in the Calverley Gardens suggests much greater possibilities than the mere dumping down of a solid square building in the middle.

The problems to be solved by the competitors were as follows :—

Levels.—The site is a valley running uphill, and consequently all surrounding views of the pavilion were to be obtained from higher ground, necessitating a simple outline for the building.

Tea Room.—This had to be readily accessible from both the pavilion and the grounds.

The Bandstand.—This had to be placed on the north side of the hall so that it could be used for either an internal or external audience.

Cost.—A sum of £25,000 to provide for a building containing 2,000 people exclusive of the tea room, &c., necessitated very strict economy of plan throughout, and precluded the treatment throughout from being anything but of a very simple character.

We regret that the rejected designs were so quickly on their way back to their owners, and, that we were, therefore, unable to form any opinion about them, but we are told there was no one amongst them with any marked outstanding advantages over the selected design. The three premiated designs are illustrated this week. The design placed first is a well-thought out scheme which can, the assessor states, be carried out for the sum specified.

There were several difficulties to face in this competition, and the apparent inadequacy of the suggested expenditure was a grave one if a good building was to be obtained on an open site, which is not only to be viewed all round, but very largely from higher levels than the main floor; in the latter regard parapet walls are not very pleasing, and some sort of roof garden or open-air restaurant would have been more agreeable as a crowning feature. In its more lightsome treatment it must be admitted that the design placed second rather scores over the others. One of the conditions suggests that a considerable portion of the northern and southern sides of the hall should be thrown open in the summer months and in this respect also the second premiated design stands more favourably. The level plateau round the building is an essentially good point in the first placed design, though some corrective to this is obtained in both the other premiated designs.

The conditions called for a concert hall to accommodate at least 2,000 with commodious entrance hall, a bandstand on the northern front to be available for an inside or outside audience, a stage for 60 to 80, dressing rooms, green room, music store, office, chair storage, a refreshment room for about 150, and cooking arrangements for tea and light refreshments, lavatories and cloak rooms. The cost was limited to £25,000, to include everything except furniture. There seemed to be no provision for compensation to the selected architect if the work is not begun within twelve months, but if the tendering comes out at more than 10 per cent. above the architect's estimate it is provided that he may receive no payment beyond the premium.

It may occur to some of our readers who know Tunbridge Wells that a competition with more elastic conditions might have suggested a more attractive scheme. As we see it, such a site as the Calverley Gardens has great possibilities, and though a really good comprehensive scheme need not have been carried out at once, something finer and better might have been elicited had the imagination of competitors been left free to evolve what such a beautiful site suggests.

The following is from the report of the assessor, Mr. E. Guy Dawber :—

"I have visited the site and made a thorough inspection of the ground, especially with a view to the various aspects, levels and position generally, and the author of the design placed first submits a well-thought out and straightforward scheme, and I consider it the best solution of the problem. The plan is economical and well-arranged, and there is no wasted space. The tea-room can be entered from the main hall and also from the grounds, and the gallery, approached through the main hall, has ample entrances and exits. The elevations have been broadly treated, are simple and dignified, though perhaps slightly austere, for an open-air pavilion and restaurant. In execution it might be advisable to increase the size of the upper windows lighting the hall, but these are mere details that do not affect the scheme. My quantity surveyors have checked the cubicle contents of this design, which they find correct and, in my opinion, this is the only one of the three selected designs that could be executed to-day within the stipulated amount of £25,000.

Plan for Suburb of Helsingfors. ELIEL SAARINEN, Architect.

BOOK REVIEWS.

The Romance of Commerce. By H. GORDON SELFRIDGE. (London: The Bodley Head. New and Revised Edition. Pp. 422. 10s. 6d. net.)

Mr. Selfridge has chosen an excellent title for his book, for it is evident that he loves his calling, and that he spells Romance with a capital R. The first chapter—Concerning Commerce—is exceedingly interesting in that it reveals the author's views upon commerce in general. He tells us that from the beginning of time all men have been merchants in some form or other, that commerce creates wealth and is the foundation of the great State. In saying that we are all merchants he points out that though we give this title exclusively to the man who buys and sells merchandise, the artist sells his pictures, the writer his books and ideas, the teacher his knowledge, the doctor his intimate knowledge of the human body and his experience, and the lawyer his legal knowledge. "The preacher, the lecturer, the actor, the estate agent, the farmer, the employé, all, all are merchants, all have something to dispose of at a profit to themselves, and the dignity of the business is decided by the manner in which they conduct the sale." This is a frank statement which everyone would do well to consider.

Mr. Selfridge deals faithfully with the snobbery of those who consider commerce to be undignified and mean. The absurdity of this social convention is exposed, and if the list of kings, princes, and parliaments who were wise enough to encourage trade is not considered sufficient, the chapter on Trade and the English Aristocracy may be helpful to those who have a more intimate knowledge of Debrett than of the fundamental principles of political economy. "It is not Commerce which often makes the individual merchant narrow, mean, and dishonest. It is the man himself who undignifies Commerce to the extent of his influence. It is not the law which makes the little, tricky, unscrupulous lawyer, it is the man himself, and it is generally he who makes men so hate that profession." To our mind the social gradation of snobs amongst themselves signifies nothing, so long as we can be assured that the way is left clear for better men to do the work. Up to this point snobbery as a social convention automatically eliminates those who are almost bound to be unsatisfactory, and commerce gains to this extent. The difficulty, as it appears to us, is that commerce must of necessity come into contact with professionalism, and if absurd notions (they cannot be defined as principles) are allowed to come into the question it is certain that the whole conception and expression of commerce is mutilated.

Mr. Selfridge traces the history of commerce through the ancient civilisations of China, Phœnicia, Assyria, Babylonia, and Greece. By about 500 B.C. the commerce of Greece had reached considerable dimensions, and we read that her wealth came to her almost entirely through the medium of trade. Trade and trade alone, we are told, raised Venice to her high position as the capital of a proud republic, mistress of the world's commerce, and the centre of art and architecture. It is interesting to read that in the days of Doge Delpino (1356-1361) a decree was passed which forbade "any Venetian noble to embark on commercial pursuits." Evidently the leaven of snobbery was beginning to work, and it is significant that doges and senators were drawn from the ranks of merchant princes, that the aristocracy was an aristocracy of trade, and that gradually trade and with it the prosperity of Venice declined. Mr. Selfridge describes the romance of commerce in its relation to the development of countries, cities, and the arts, and the romantic history of famous families and individuals who rose to fame as merchants and traders. He clearly establishes his contention that the prosperity of a country depended upon its commerce, and that the guardian of trade became the guardian of the arts. "Where wealth is greatest, everything else being fairly equal, arts thrive the most."

It is interesting to read that in early days merchants were their own bankers, and that the so-called banks up to the end of the seventeenth century were really pawnbrokers. The inauguration of the Bank of England in 1694 is thus an important landmark when we bear in mind the enormous importance assumed by the banks of to-day. If modern commerce could not exist without the banks, it is equally true to say that the banks could not exist without commerce. The circle is quite limited, yet cause and effect have become so obscured that the majority of people never consider whether trading conditions are controlled by the banks or *vice versa*.

It may be a surprise to many to read that the early years of British trading "were burdened with an overweight of unsatisfactory dealing"; that there was cheating in buying and selling corn, shoes, and clothing; that traders sold short measure and used illegal weights; and that petty tricks were the common practice of the thirteenth century. It is certain that no great and lasting commercial success has ever been built on dishonesty, and it is evident that honesty had not come to be regarded as a policy in the early days of British commerce. Mr. Selfridge comments on this: "The absence of permanency, or of the desire to build a business for the future made it easier to get as much as possible from each customer."

We should have liked to see a chapter in this book dealing with the growth of limited liability companies, and the tendency towards the formation of large combines. There is a doubt whether combines are in the best interests of the country, and we have the impression that the collective and, in a sense, soulless outlook of a combine has a more deadening effect upon architecture than the individualism of the merchant. Mr. Selfridge tells us that the early merchants were—amongst other things—manufacturers, miners, and shipowners, and it would have been interesting to read his comments upon the development of what is now commonly termed industrialism. We have in mind the fact that industralism has, in the past at least, given little or no consideration to the amenities of life. It is to Mr. Selfridge's lasting credit that he has given us a building which fully expresses the fine ideals which he holds upon commerce.

It is ungenerous on our part to ask for more in a book which is already large and represents a vast amount of research and interesting information. It is evident that it has been a labour of love for the author.

Back to Prosperity. By HENRY LOWENFIELD and MARGARET LOWENFIELD. (London: Effingham Wilson. Price 5s. net.)

The financial disturbance due to the Great War has resulted in the publication of many books suggesting a number of reasons and remedies. It is natural, we suppose, to look for remedies when health is bad; it is a totally different matter accepting the rules for maintaining good health. The trouble with most of the books we have read upon economics is that we are presented with a bewildering number of contradictory remedies which create a suspicious feeling that cause and effect are becoming thoroughly mixed. The one thing which is clearly evident from past experience is that the remedy—if there is one—must either be difficult to isolate or complicated in its application to this industrial world. Otherwise it is difficult to account for the position we are in to-day. The title of this book is alluring, but we doubt if it will help us far on the way by itself. Nevertheless, the book is original whether we agree with it or not, and we welcome this further sign that the subject is receiving wide attention, and hope that some useful light will be thrown on the problem.

Modern Organ Building. By W. & T. LEWIS. (London: William Reeves. Price 15s. 6d. net.)

This volume is a highly technical treatise on organ building, profusely illustrated with diagrams showing structural and mechanical details. It contains an account of the effects of harmonics and material on tone quality, goes fully into the questions of tuning, voicing, and blowing, and includes a description of the various stops. The architect would probably like also to see some figured plans, sections, and elevations of typical church organs, and to be given some hints as to fixing and as to the best positions for an organ from the acoustical point of view; but the book is essentially intended for the student of organ building proper, and it does not touch the wider questions involved in the arrangement of church interiors or other buildings designed to receive organs. Musicians are agreed that the orchestra is unduly weak in the bass, a weakness from which the organ is free; the organ builder always appears to err in abusing this freedom, and to provide notes so deep that they cease to be heard as sounds at all and degenerate into mere pulsations. Such pulsations are "notes" only on paper, and one is constantly at a loss to understand why the organ builder goes to the trouble and expense of producing them, since they are, to the writer at least, highly distracting and unpleasant. We find the authors referring to a 32 foot stop, the four lowest notes of which are said to have cost £800, and these notes must all have been well below any note to be found on the piano, and yet one would have thought that the compass of the latter instrument was amply sufficient. The book is well indexed, and the diagrams throughout are prepared in a careful and workmanlike way, giving evidence that trouble has not been spared in their preparation.

The Law and Practice of Rating and Assessment. By CLARENCE A. WEBB, F.S.I. (London: Crosby Lockwood & Son. 1923. Price 15s. net.)

This volume is described on the title page as a handbook for overseers, members of assessment committees, surveyors, valuers, and others, and, as the author explains in his preface, the work is also designed to be of assistance to occupiers and owners of rateable property as well as to officers of public companies, students, &c. The first edition appeared in 1910, and we then expressed the opinion that it would prove a valuable addition to the libraries of those it was intended to assist, and but for the war we imagine a second edition would have been called for before this. However that may be, this edition appears at a most opportune time for, as the author says in his preface, it is generally recognised that the present is a particularly difficult time for general reassessment owing to the operation of the Rent Act, yet it is generally felt, owing to the lapse of time in most districts since a revision was made and the changes that have taken place, that new lists must be prepared.

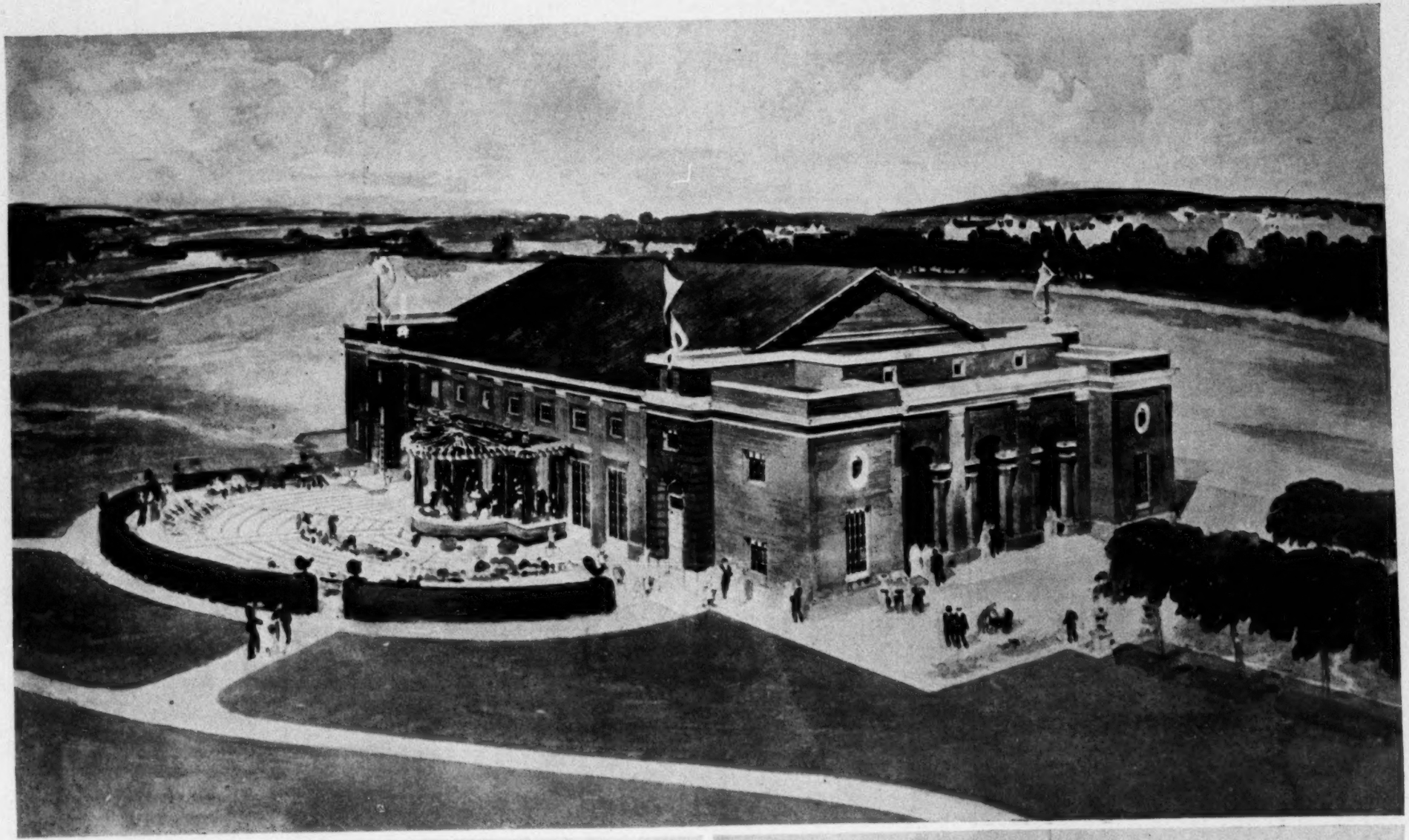
One of the features of this work is the table of cases with reference to the reports in which they appear, as this is often omitted in other than text books by lawyers, and there is also an index so copious that we congratulate ourselves on discovering any omission, but the Increase of Rent Act does not appear in the Index, although it is dealt with in the Preface and referred to at page 204 in the text. The subject is presented in a clear and attractive form, and this edition of a most useful handbook brought thoroughly up to date will be welcomed.

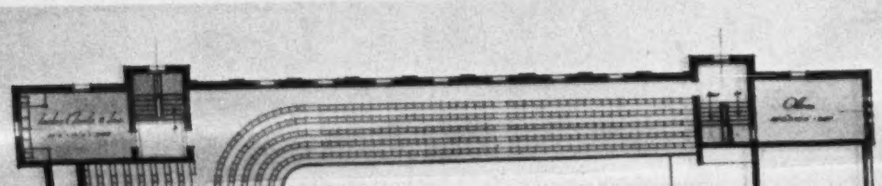
Books Received.

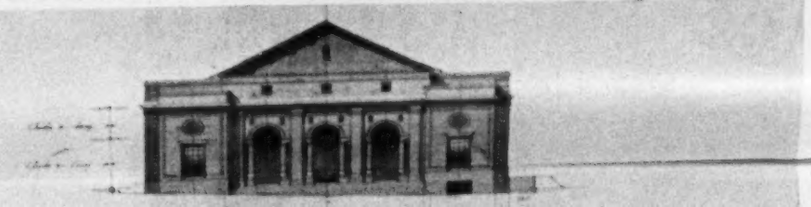
CATALOGUE OF ENGLISH FURNITURE AND WOODWORK, Victoria & Albert Museum. By H. Clifford Smith. (London: H. M. Stationery Office). Price 2s. 6d.

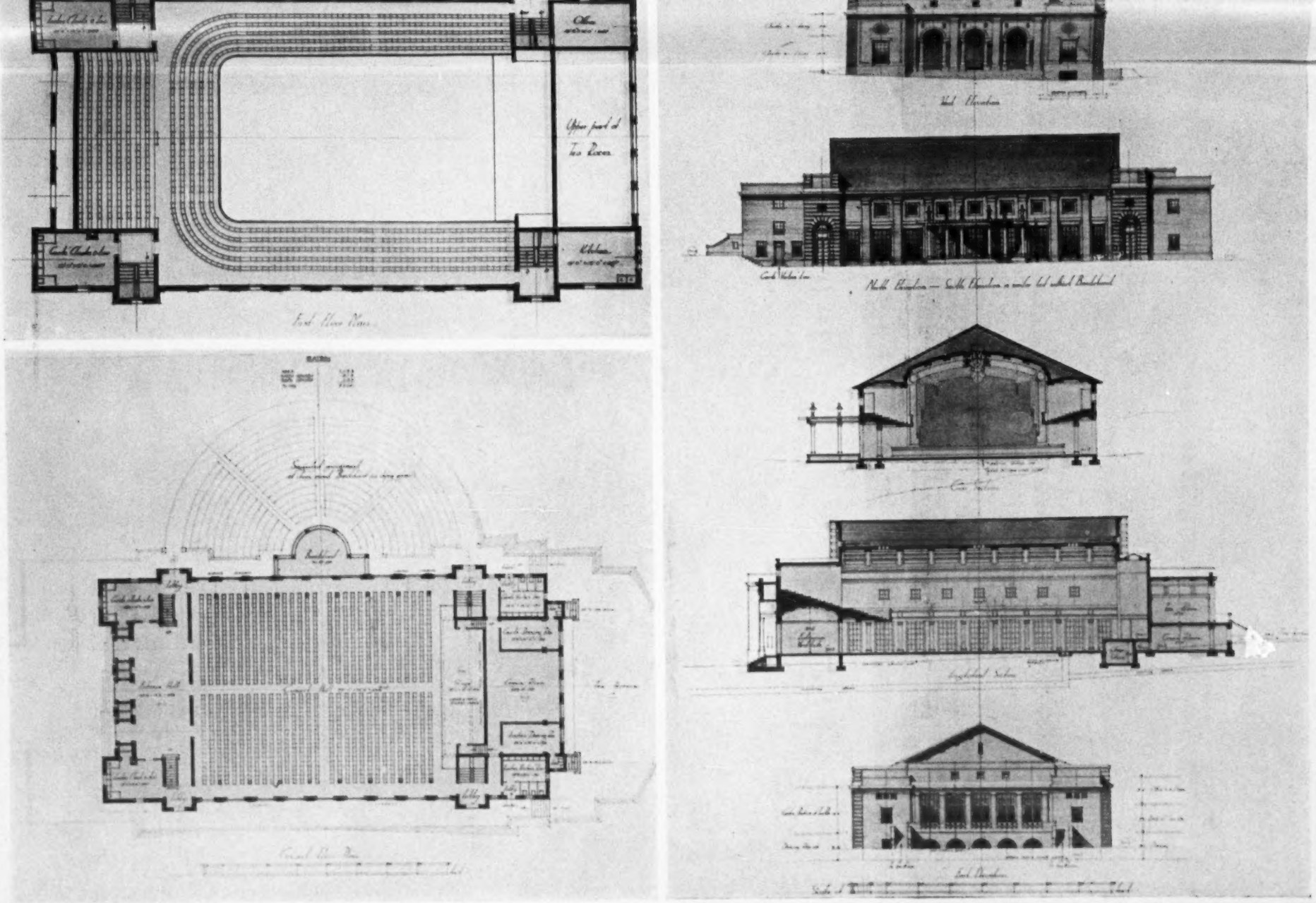
THE BEAUTIFUL NECESSITY. By Claude Gragdon. (London: George Routledge & Sons, Ltd.). Price 8s. 6d. net.

LONDON OF THE FUTURE. By Thomas Edward Collcutt. (London: Leonard Parsons). Price 2s. 6d. net.









TUNBRIDGE WELLS PAVILION COMPETITION. First Premiated Design, by Mr. E. Vincent Harris, F.R.I.B.A.

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ILLUSTRATIONS.

Tunbridge Wells Pavilion Competition.

We illustrate this week the three premiated designs in the Tunbridge Wells Pavilion Competition (of which Mr. E. Guy Dawber, F.R.I.B.A., is the assessor), by Mr. E. Vincent Harris, F.R.I.B.A., Mr. Septimus Warwick, F.R.I.B.A., and Messrs. Franklin & Deacon respectively. A review of the designs submitted in the competition is given on p. 205.

Memorial Chapel, Mount St. Mary's College, Chesterfield.

The design for this chapel was influenced by the fact that it was desired to incorporate an existing two-storied wing of the college, consisting of the present chapel with a large dormitory above. This wing has been gutted internally and converted into the new nave; while the dome, transepts and sanctuary, &c., are being added at the east end, and also an ante-chapel, with choir and organ gallery over, at the west end to complete the scheme.

The exterior is being faced with silver-grey bricks and Portland stone dressings, with roofing of specially-made Italian tiles, while the outer dome and lantern will be covered in copper. Both inner and outer domes, with the lantern, are being constructed of reinforced concrete.

The internal stonework is of brown Hornton stone, which will show dark against the plaster and emphasize the early Italian character of the work. The decorative frieze will be in Della Robbia ware in subdued colours; while the altar and reredos will be of marble, together with the sanctuary paving.

The general contractors are Messrs. Geo. Longden & Son, Ltd. (Neepsend, Sheffield). The silver-grey bricks are being supplied by Mr. J. C. Edwards (Ruabon), and the Portland stone by the Bath and Portland Stone Firms, while the brown Hornton stone is from Messrs. J. F. Booth & Son (Banbury). The Italian tiles for the roof are from Messrs. Ames & Finnis (37 and 38, Strand, W.C.2); and Messrs. Ewart & Sons, Ltd. (Euston-road, N.W.) are responsible for the copper roofing for the outer dome and lantern. The marble paving in the sanctuary will be the work of Messrs. John Stubbs & Sons (Liverpool).

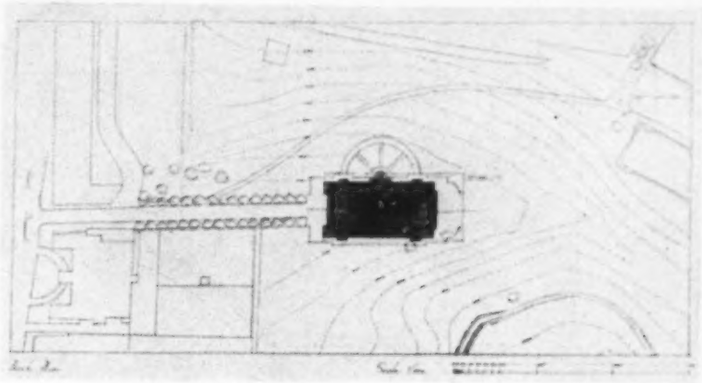
Nos. 210 to 216, Old-street, Finsbury, E.C.

The premises illustrated on p. 212 have been erected for Messrs. Charles Churchill & Co., Ltd., of 15, Leonard-street, E.C., machine tool factors and manufacturers. They comprise a working floor area of 24,000 super ft., and in addition a large superficial area forming the roof flat. The floors are very lofty; the basement, which is exceptionally well-lighted, being 15 ft., and the ground floor 18 ft. in height.

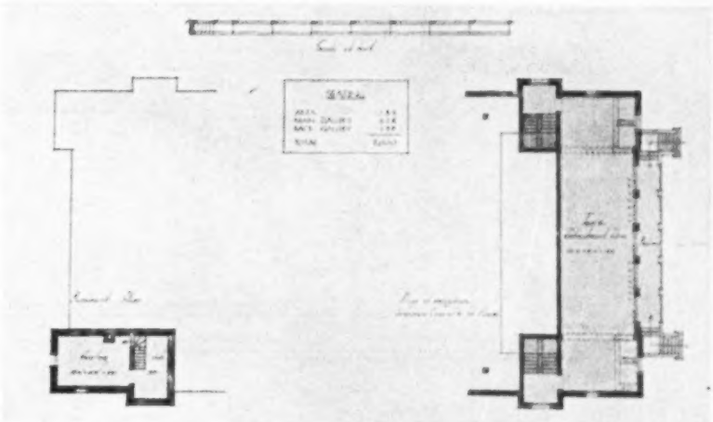
Two lifts are installed, one externally, serving all floors and roof flat, carrying a 1-ton load; and a small goods hoist internally; provision has also been made for a passenger lift in the well of the main staircase. There are two staircases. The floors and roof are of fireproof construction, and the elevations are faced with artificial Portland stone. The tower at the angle encloses the main staircase from the third floor to the roof flat. The estimated cost of the building is £70,000.

The following contractors and sub-contractors were employed, viz.: General contractors Messrs. Holland & Hannen & Cubitts, Ltd.; stonework, &c., The Patent Impervious Stone Co.; steelwork, Powers & Deane Ransomes; lighting and glazing, T. & W. Ide; asphalte, International Asphalte Co.; heating and sanitary work, Davis Bennett & Co.; lighting, Duncan Watson & Co.; wrot. iron work, Joseph Stone.

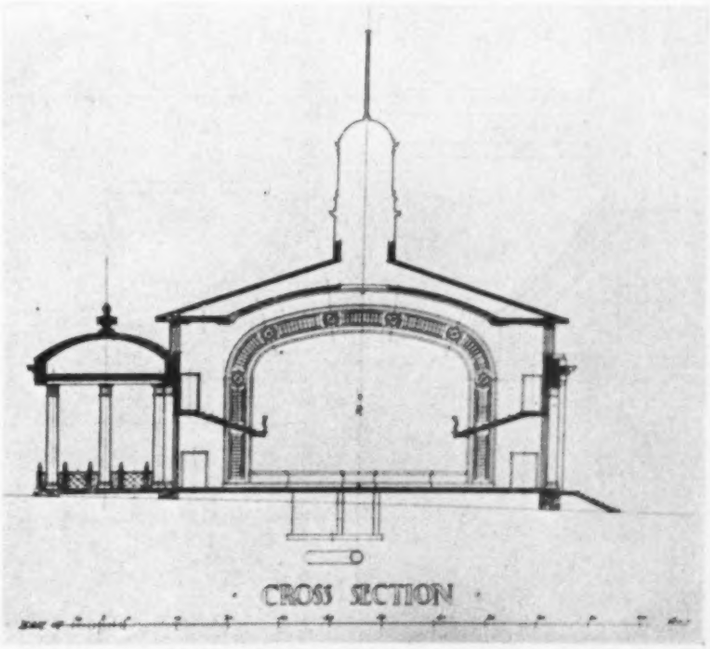
The architect is Mr. F. Lindus Forge.



Block Plan.

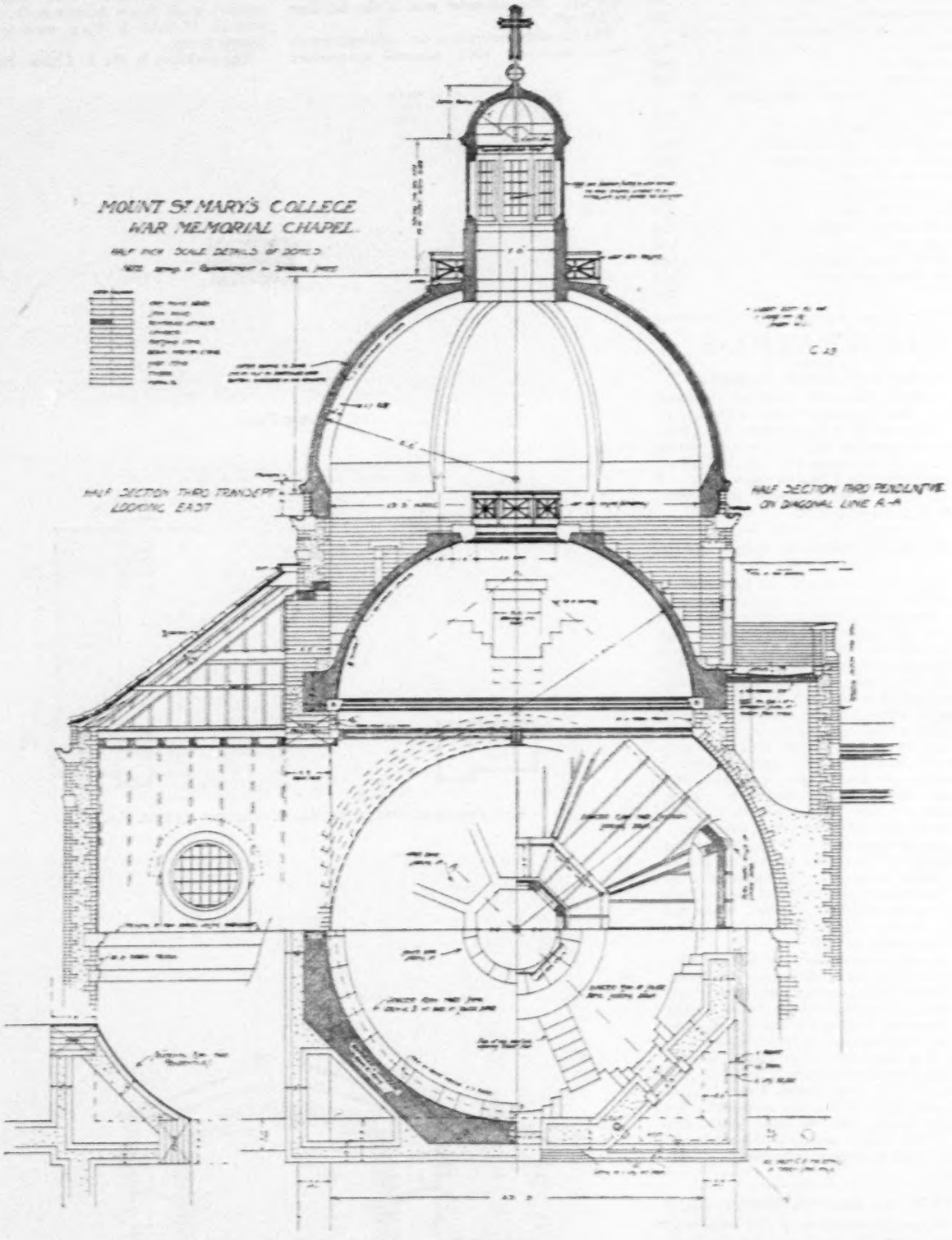


First Premiated Design, by Mr. E. Vincent Harris, F.R.I.B.A.

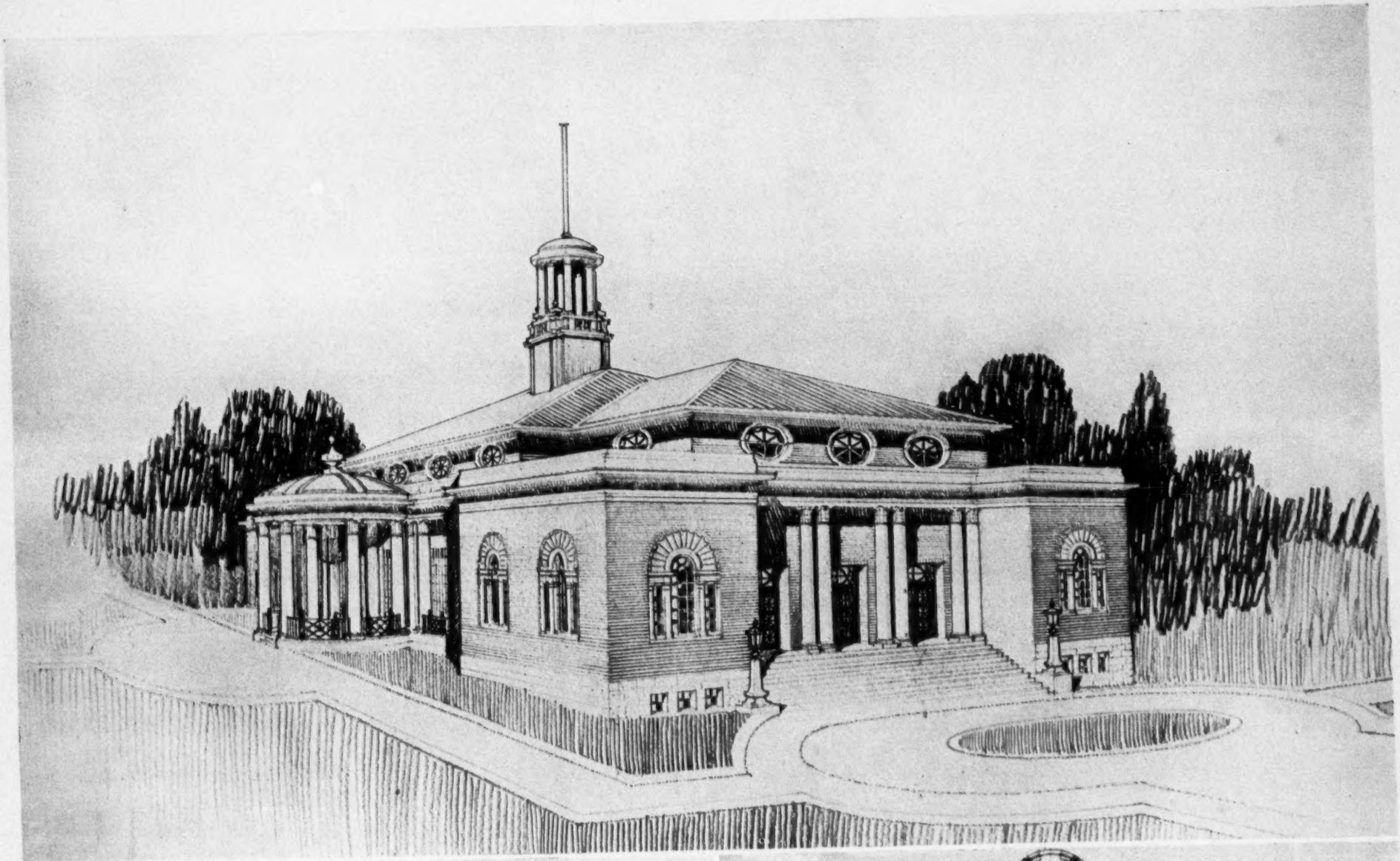


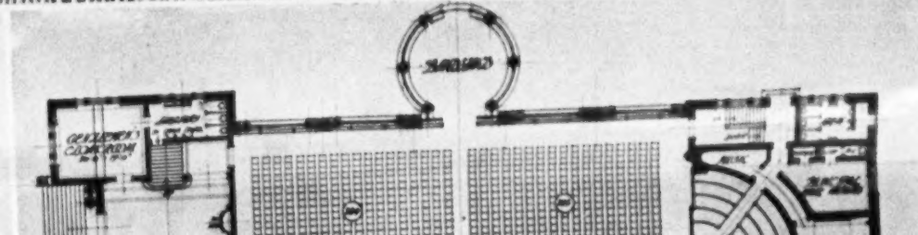
Second Premiated Design, by Mr. Septimus Warwick, F.R.I.B.A.

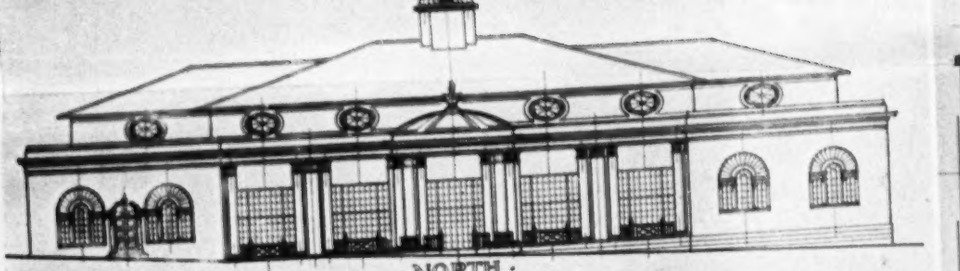
Tunbridge Wells Pavilion Competition.

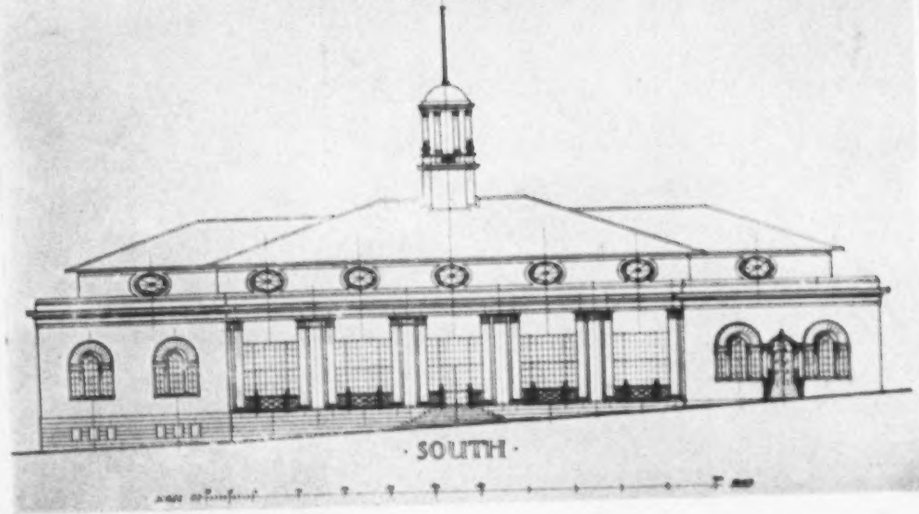

MOUNT ST. MARY'S COLLEGE
WAR MEMORIAL CHAPEL
HALF SECTION THRO TRANSEPT LOOKING EAST
HALF SECTION THRO PENDENTIVE ON DIAGONAL LINE A-A

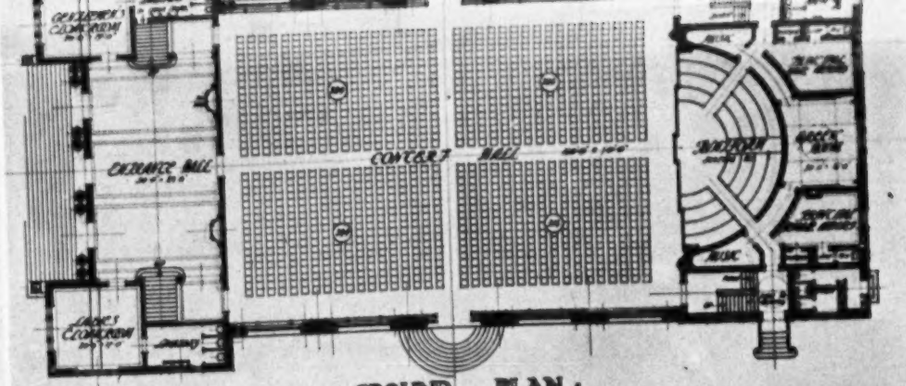
Mr. Adrian Gilbert Scott, Architect. (See p. 207.)

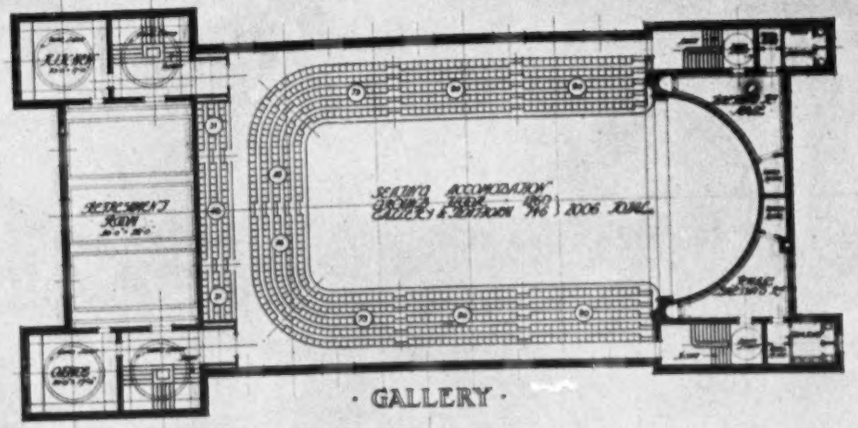


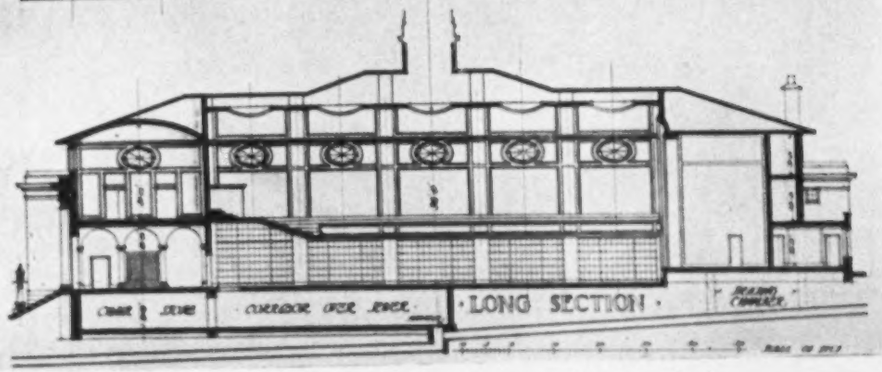




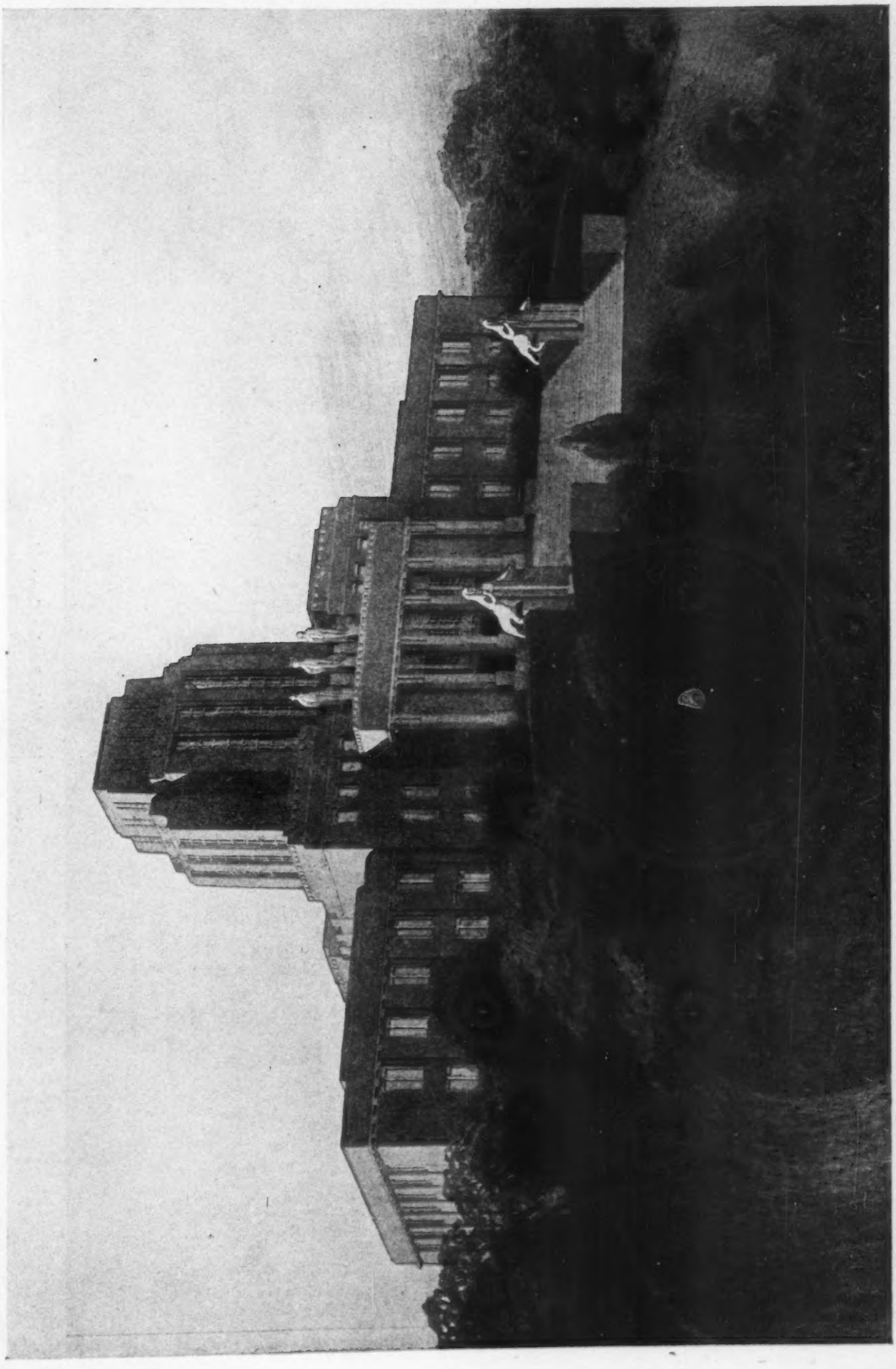




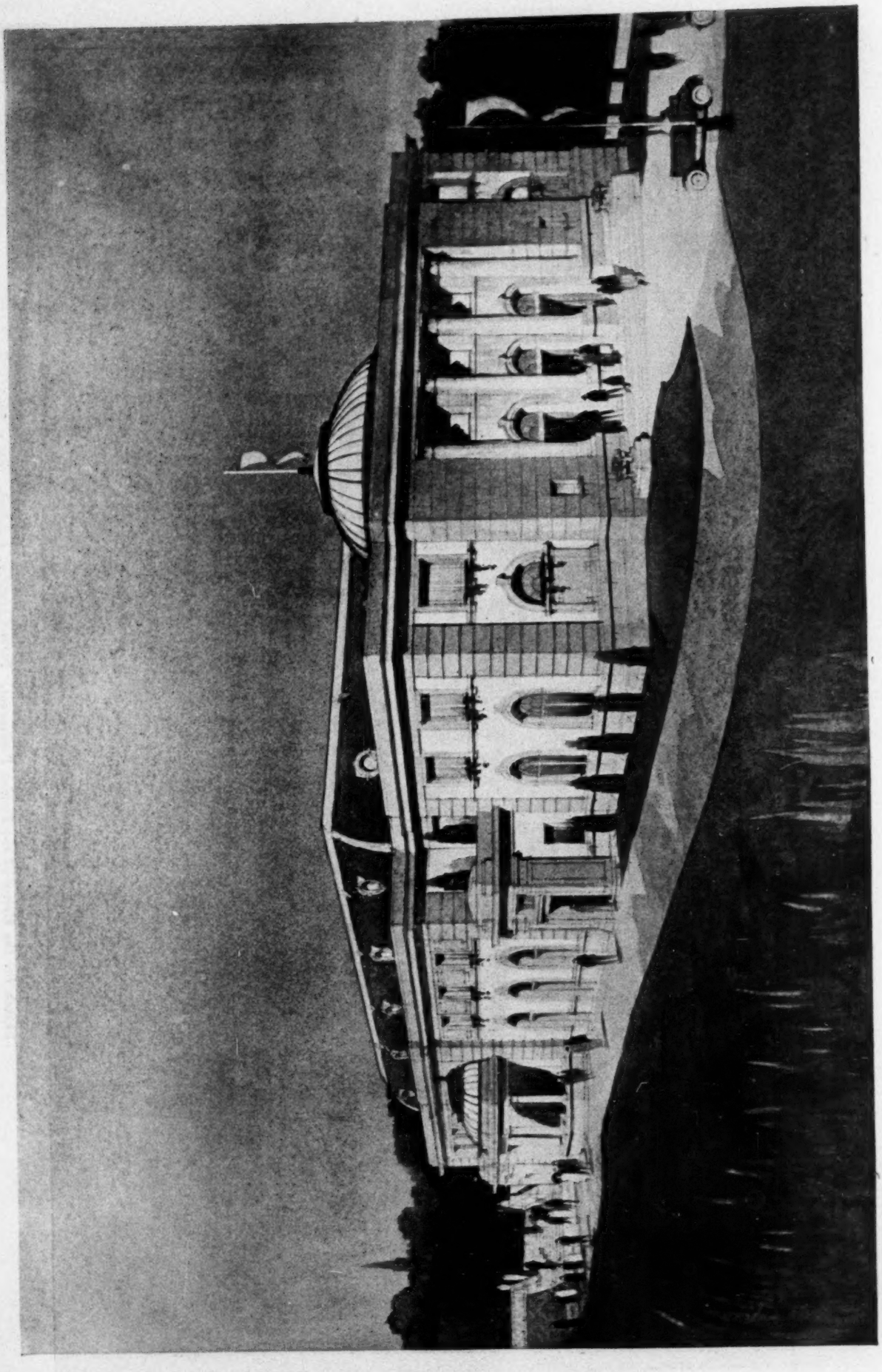




TUNBRIDGE WELLS PAVILION COMPETITION. Second Premiated Design, by Mr. Septimus Warwick, F.R.I.B.A.



Sketch for the House of the Finnish Parliament. Eliel Saarinen, Architect. (*See p.* 204.)



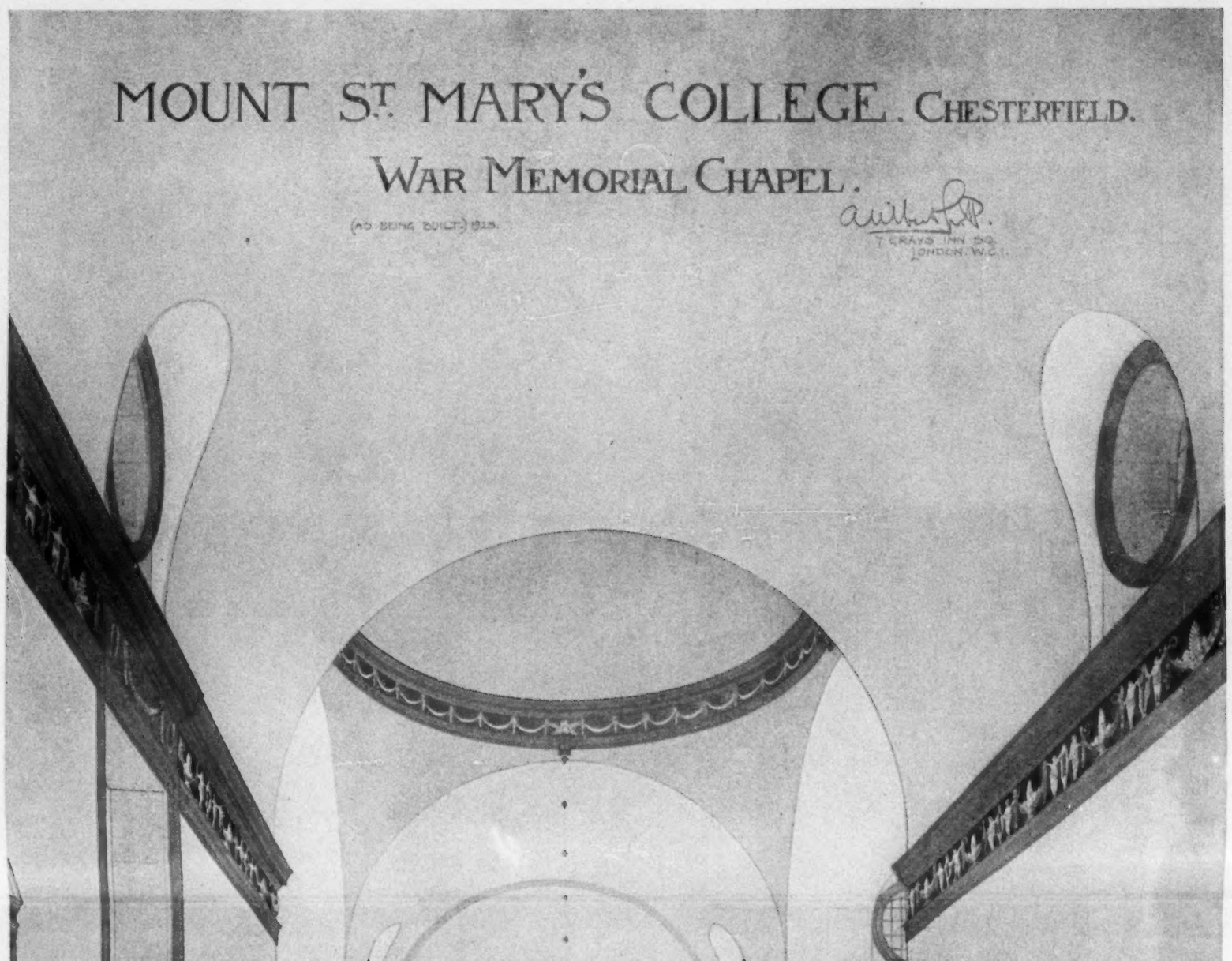
Tunbridge Wells Pavilion Competition.
Third Premiated Design: By Messrs. Franklin & Deacon.

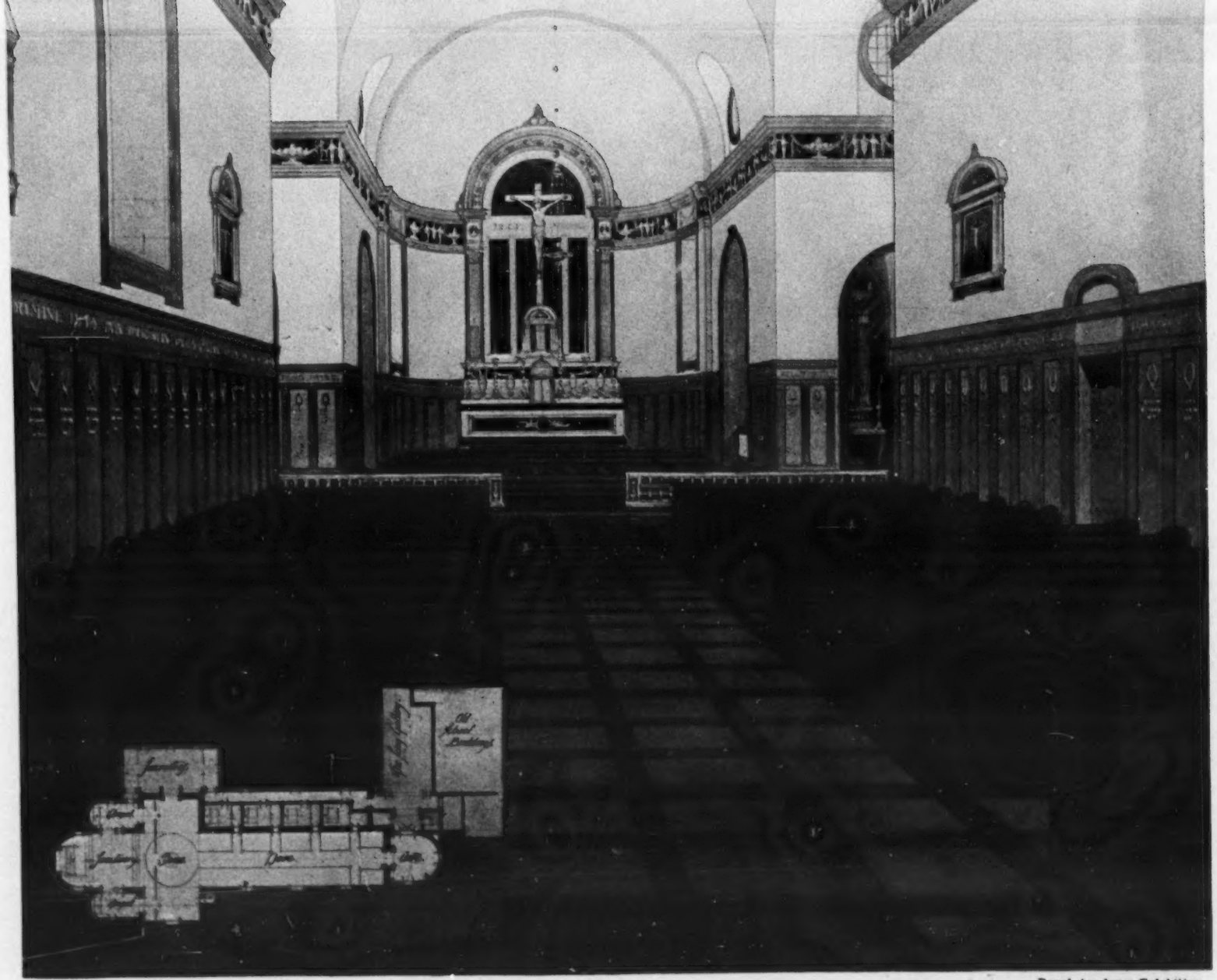
MOUNT ST. MARY'S COLLEGE. CHESTERFIELD.

WAR MEMORIAL CHAPEL.

(AS BEING BUILT.) 1923.

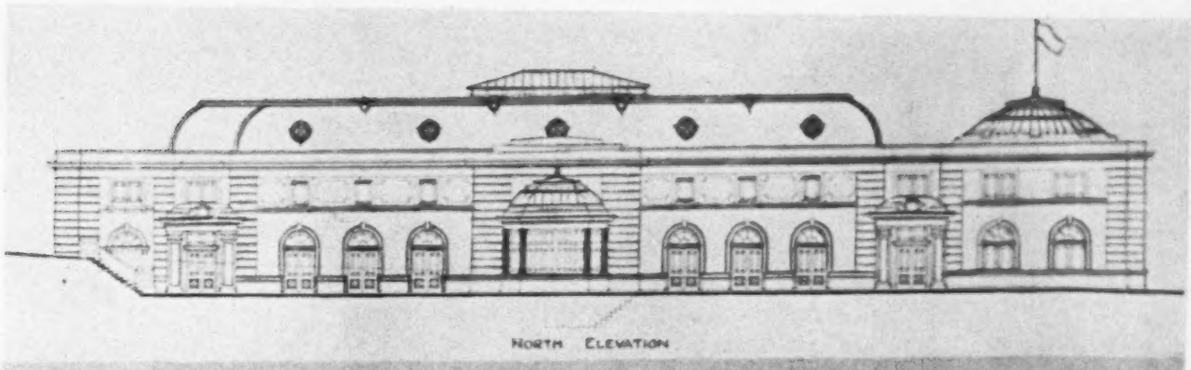
7 CRAYS INN SQ.
LONDON. W.C.1.



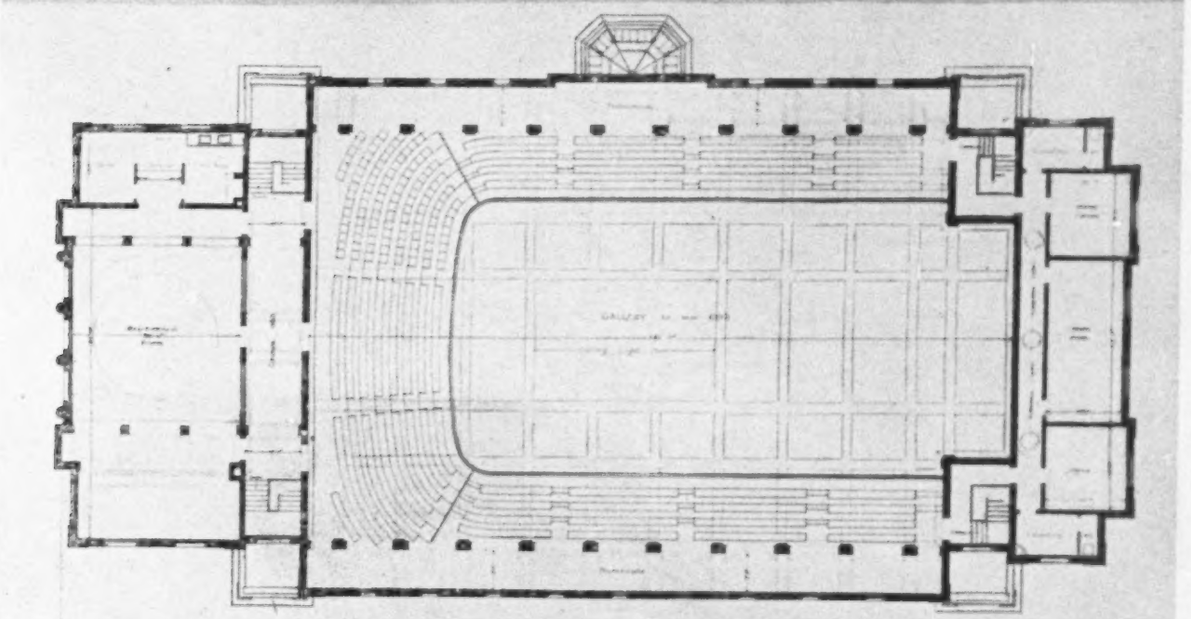


Royal Academy Exhibition

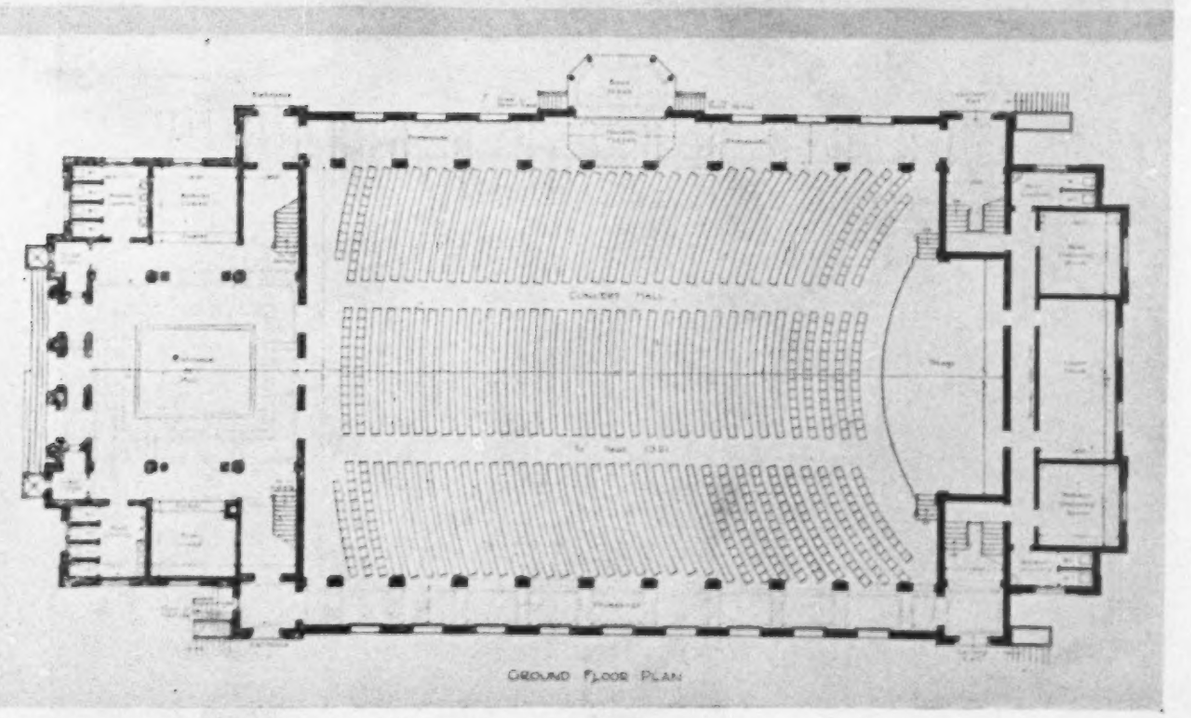
Mr. A. Gilbert Scott, Architect.



North Elevation

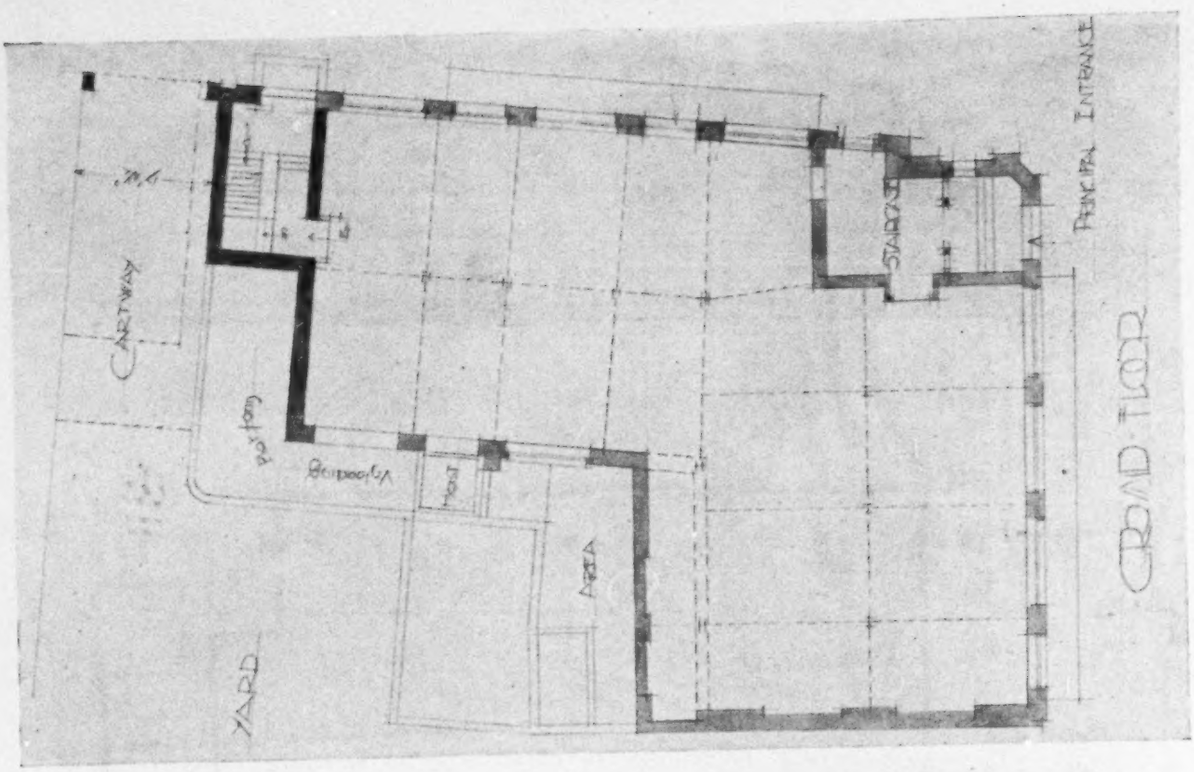


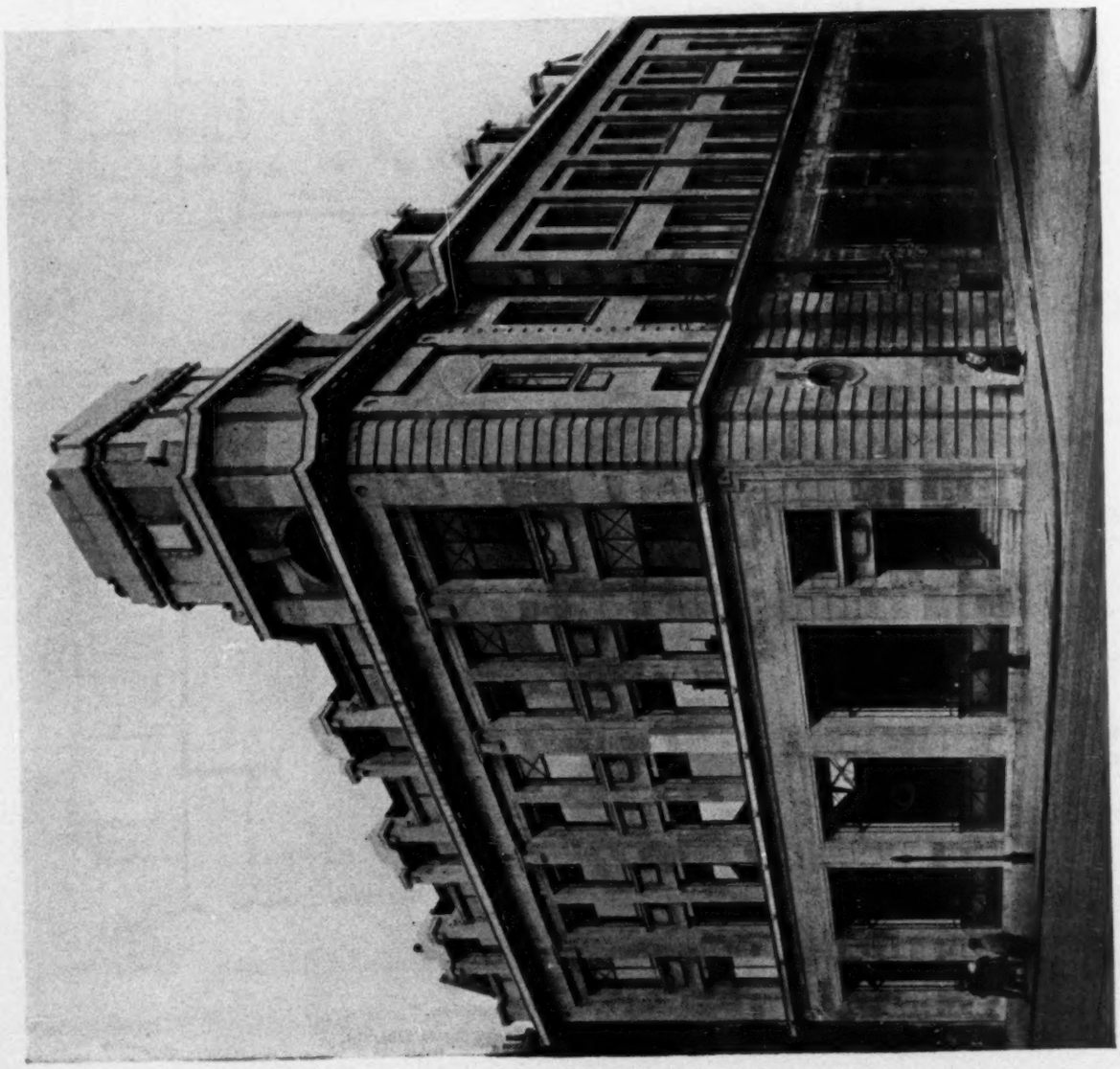
First Floor Plan



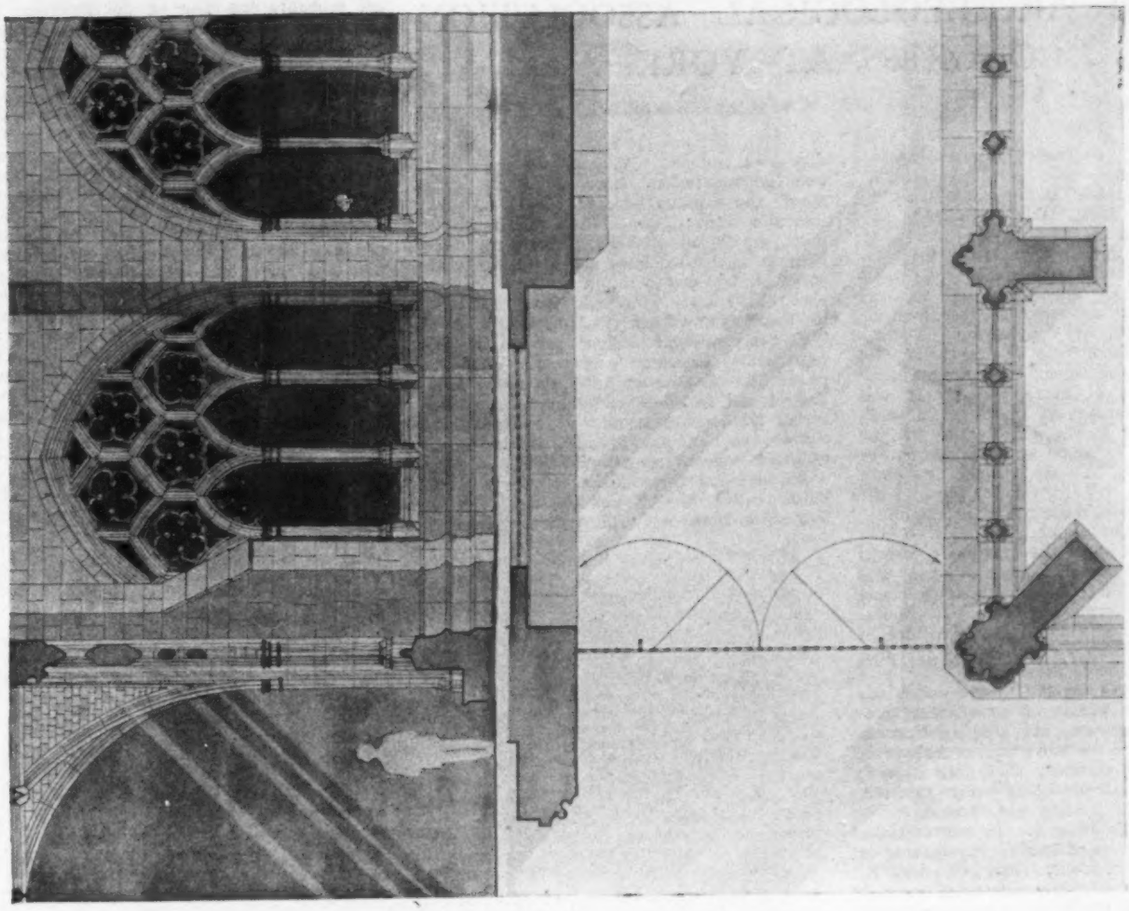
Ground Floor Plan

Tunbridge Wells Pavilion Competition.
Third Premiated Design: By Messrs. Franklin & Deacon.

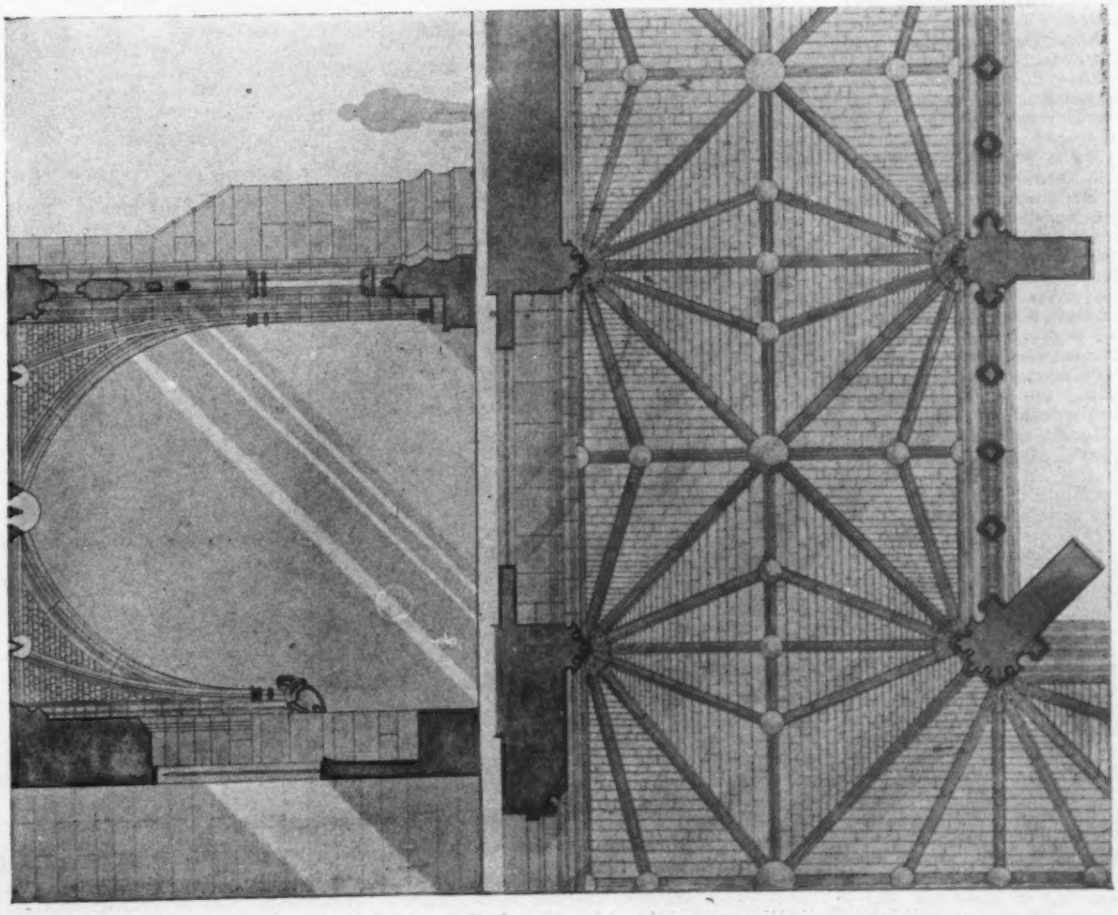




Nos. 210-216, Old Street, Finsbury, E.C. Mr. F. Lisdus Forge, Architect. (*See p.* 207.)



External Elevation and Plan.



Section and Plan.

Measured Drawings of Cloisters, Westminster Abbey.

Northern Polytechnic School of Architecture: William Woodward Travelling Studentship, 1923. First Prize Design, by Mr. S. Smith (First-Year Student).

BRITISH ARCHÆOLOGICAL ASSOCIATION CONGRESS AT YORK.

By REV. P. H. DITCHFIELD, M.A. F.S.A., Hon. A.R.I.B.A.

THE British Archæological Association, which is entitled to call itself "Venerable," held its 80th Annual Congress from July 2-8 in the city of York, under favourable auspices. Founded in 1843, it has contrived, sometimes with difficulty, as during the years of war, to hold its Congress every year without intermission. There can be no more attractive field for archæological research than the great capital of the North. It has played a prominent part in the history of the country in all ages. It contains antiquarian remains of every period. It was known to the Romans as Eboracum, a small city, rectangular in shape, only 540 yds. by 480, surrounded by stone walls erected by the Emperor Trajan. To-day we can see parts of those Roman walls, the lower parts of the multangular tower, memorial slabs, statuary, monuments, pottery, stone coffins, tiled and brick graves and much else that bears witness to Roman occupation. Saxon, Dane and Norman have all left traces of their presence, and Professor Freeman asserted that Eboracum holds a place unique in the history of Britain, shared only by one other city north of the Alpes, namely, Treves.

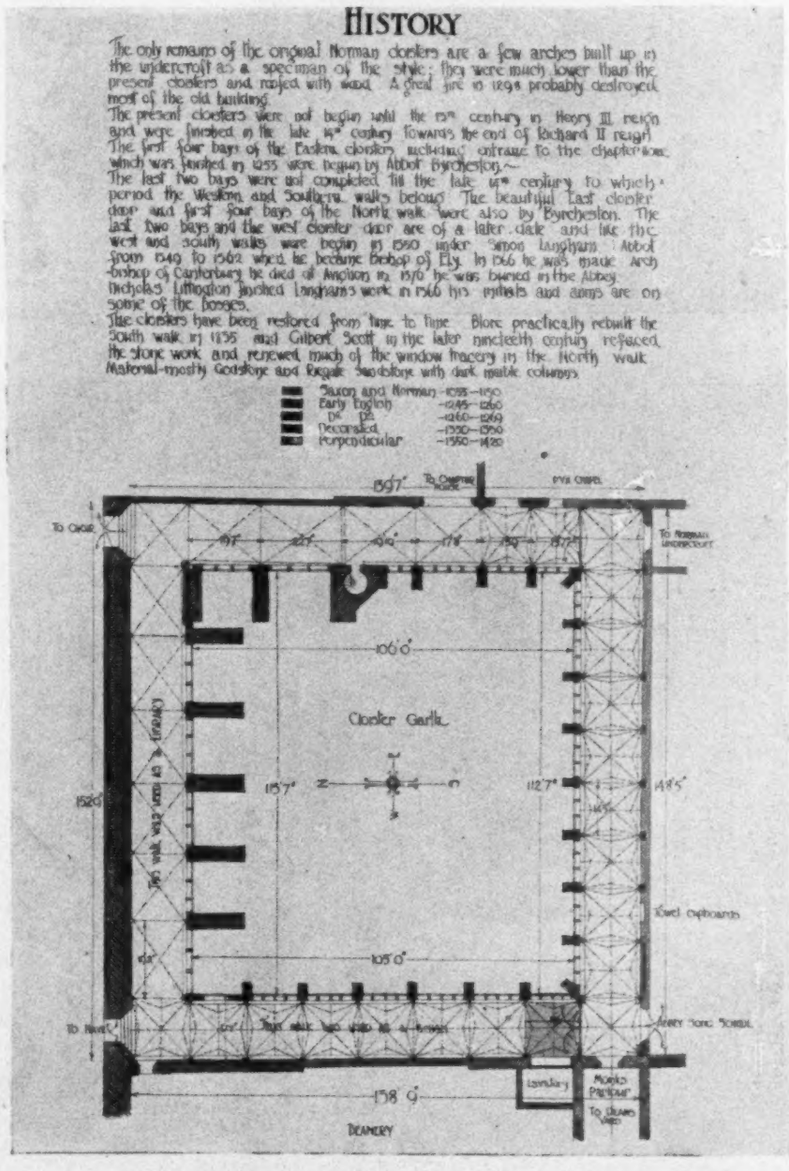
In the wide area covered by the excursions there is a great wealth of antiquarian treasure, fine examples of simple Norman churches, some of the most famous Abbeys in the Kingdom, Fountains, Rievaulx, Byland, Selby, Ripon Cathedral, Beverley Minster, which is worthy of being a cathedral.

Again we were fortunate in our officials. The Association is favoured by having a "perpetual" President, Mr. Charles E. Keyser, who for 17 years has acted in that capacity, and to whom the Association owes so much for his kindliness, generosity, and tact. We were also fortunate in our local secretaries, the Rev. Alfred Hunt and Dr. W. E. Collinge, D.Sc. The headquarters were established at The Royal Station Hotel, York, and the Yorkshire Philosophical Society readily placed its rooms at the disposal of the Association.

The Congress opened after luncheon on July 2 with a visit to York Minster, which has been so often described that it is unnecessary to tell its story here. The well-known ruins of St. Mary's Abbey, York, were visited, which was the first Abbey founded in York after the Conquest. Close to the Hospitium, Dr. Collinge pointed out the watergate which gave access to the staith or landing. The remains of St. Leonard's Hospital were noticed nigh the entrance to the grounds of the Philosophical Society, and the Multangular tower also was noticed, the lower part being Roman, the upper Mediæval. After dinner the members were invited to a reception at the Mansion by the Lord Mayor and Lady Mayoress, Alderman and Mrs. J. B. Inglis.

An early start was made, and the members enjoyed a tour rich in interest to the archæologist, probably the richest in the county of Yorkshire—that lying between the city and the beautiful ruined Cistercian Abbey of Fountains. Nun-Monkton Church was the first stopping place. The singular design of the west front, considered by architects to be a gem of architectural construction, was described by Mr. P. M. Johnston, F.S.A., and the interior by the Rev. E. Clopton Illingworth, vicar. The west front is well known by all students of architecture, and was built between the years 1190 and 1200, the upper part being Early English and the lower part Norman. It presents some remarkable features. The doorway is perfect, and one can notice anticipations of the ball-flower ornament in the cone-shaped ball. Above the door is a trefoiled niche, and there is much rich ornamentation, enriched zig-zag ornament, and capitals adorned with some peculiar and local ornamentation differing from what one finds ordinarily. The three Early English lancet windows above the doors are enriched by dog-tooth, and were inserted about 1210 A.D. This west front is figured in Parker's "Glossary," and described as "of very singular design, perhaps unique, remarkably elegant." There is a gabled pediment. The tower windows are square-headed and trefoiled, and there is a curious corbel table above them. On either side of the doorway are round-headed niches, in one of which remains a mutilated figure. On the south side are three doorways, the westernmost, called the Nuns' Doorway, is rich Transition-Norman. The central is walled up, probably the door of the Prioress; the easternmost or priest's door has been restored. These doors probably opened into a cloister.

The journey was then continued to Knaresborough. We admired the beautiful situation of the town perched upon a rock overlooking the fair valley of the Nidd. It is a "castle-town," owing its origin to the once proud castle, the remains of which few of the party saw. The Church, dedicated to St. John the Baptist, was described by Mr. Arthur Gibson, A.R.I.B.A. It has nothing very remarkable, and is mainly an Early English building with later additions. The lower part of the tower was built in the thirteenth century, the upper is later. There have been there three eras of building, first in Norman times, then in the thirteenth century, and lastly in the Perpendicular period, when in 1450 the nave, consisting of four bays, was erected. It was restored in 1872. There is a record of a consecration in 1343. The east window was inserted in 1320, but the chancel is Early English, and on either side is a chantry of the same period. In 1230 it was created a prebend of York Cathedral. In the chantry chapel on the north side are the monuments



Plan of Cloisters, Westminster Abbey.

NORTHERN POLYTECHNIC SCHOOL OF ARCHITECTURE: WILLIAM WOODWARD TRAVELLING STUDENTSHIP, 1923. First Prize Design, by MR. S. SMITH (First Year Student).

of the Slingsby family of Scriven, one of the great Cavalier families of Yorkshire. We noticed two monuments of the Roundell family in the south chantry, and the Perpendicular font with its Jacobean cover. Two notable events occurred in the history of the town, the two Scottish raids. One took place in 1318, when the Northern freebooters plundered the town, and when the inhabitants fled to the tower of the church for refuge, and piled up timber around it in order to drive them out. It is said that the red-tinged stone on the west front is a mark of this attack.

After Knaresborough came Ripley, a very interesting church in a charming little town. The church is rather puzzling. According to the published guide the present church was built by Thomas Ingilby, grandson of Sir Thomas Ingilby, the Judge, about A.D. 1400. Mr. Johnston considers that it was built in 1195-1200. In Murray's Guide it is described as decorated with later additions. It consists of nave, choir, and two aisles. The door is interesting, a good example of rough carpentry, and it has curious wrought-iron C hinges. The chancel was rebuilt in the fifteenth century, and this may account for the statement that the whole church was erected in 1400. The groove for the boarding of the rood is discerned, and in the south aisle there is an early screen. A hagioscope or squint exists in the south wall of the chancel. In 1567 we are told that the walls of the nave were raised and five clerestory windows inserted on each side. A considerable restoration took place in 1862, when new roofs and windows were added, square pews, and much else. The screen and choir stalls were put in in 1885.

The most notable object in the church is the tomb of Sir Thomas de Ingilby and his wife. The Knight is represented in armour, head resting on the crest of his arms, the boar's head and neck couped, his shield bearing the star and a lion at his feet. His wife wears the dress of the period (1369). Round the sides are shields bearing various coats of arms, and "weepers," representing the children of Sir Thomas and his wife. The curious thing is that their names are given, William, John, Thomas, Henry, Alicia, besides a priest and a monk. This Sir Thomas was Judge of Assize in 1351 and one of the Justices of Common Pleas in 1361. The Ingilby family have held the manor for 600 years. Oliver Cromwell stabled his horses in the church after the battle of Marston Moor, doing great damage to this tomb, upon which he caused to be carved:

"No Pompe nor pride—
Let God be honoured."

In the churchyard is a curious weeping or kneeling cross. The pedestal only remains, and round the lower block are eight deeply cut niches, intended for persons to kneel. This cross is very rare, and is supposed to be about seven hundred years old.

On the east wall are bullet holes caused by Cromwell's soldiers when they executed some Royalist prisoners after the battle of Marston Moor.

The drive was resumed and we passed on to Ripon Minster and Cathedral, which was described by Mr. Johnston. Ripon did not become a Cathedral until 1836, when the diocese was carved out of that of York. Though not a Cathedral of the first magnitude or splendour, yet it is a stately structure and greatly superior to many of our ecclesiastical structures. This, in very brief, is the story of the building. Mr. Johnston pointed out the work of several periods, which may be thus summarised:—

Saxon: Crypt.

Norman (1070-1100): Portions of chapter house, vestry, and crypt below.

Transition (1154-1181): Three bays of north side of choir, portions of nave, piers adjoining west and central tower, transepts.

Early English (1215-1255): West front and west tower, vaulting of chapter house and windows.

Early Decorated: Two eastern bays of choir and east window.

Perpendicular: South and east sides of central tower, east side of wall of south transept, two bays of south side of choir, nave (except the west bays adjoining the towers).

After luncheon at the Spa Hotel the party proceeded to

Fountains Abbey,

where Canon Garrod, of Ripon, gave an exposition of the ruin. He said that the Abbey was founded in 1132 by thirteen monks from York, who passed two years in great poverty. In 1135 they were joined by Hugh, a wealthy Dean of York, who enabled them to begin the first building of the Abbey. The remaining portions of this are the nave and transepts of the church, the west wall of the cloister, and the sub-vault of the monks' dormitory. A great misfortune befell the rising Abbey, as some knights of York came and burned it in 1147. However, the Cistercians were very persistent and persevering, and three years later began building again. The chapter house and parlour and the eastern guest house were completed in 1160; and during the next ten years the northern half of the cellarium and the western guest house, and after 1170 the warming house, frater, and kitchen, and lay brothers' infirmary. During 1203 to 1220 the presbytery was built by John of York, who was also the builder of the nine altars and cloister arcading (now wholly destroyed) and monks' infirmary. The monks seem always to have been adding to their beautiful home. In the late thirteenth century they built the infirmary chapel and malthouse; in the fourteenth the infirmary kitchen, conduit house, abbot's lodging, and in the fifteenth century Abbot Durnworks inserted Perpendicular windows in the west and east ends, also the nine altars, while his successor, Abbot Horby, placed north and south windows in the nine altars, and erected the tower. Almost to the end the monks were building and improving their house, but the end came in 1539, when it was suppressed, and sold to Sir Richard Gresham, and pillaging and ruin followed. Such is the story of the Cistercian Abbey, one of the finest in the kingdom.

We wandered through the Norman nave and admired its beauties. A blocked doorway led to the lay brothers' quarters, which were screened from the monks in the Minster. The rood screen stood by the seventh pillar, and the retro-choir was for infirm monks. The central tower fell and was rebuilt just before the Dissolution by Abbot Horby. Some earthern pots were discovered where the stalls stood. Many conjectures have been made about their use, but it is certain now that they were for resonance or acoustic purposes. The doorway in the south transept led to the monks' dormitory, and there were two chapels in this transept. The nine altars were the gem of the Abbey, as at Durham. Each one had its own piscina and drain, and were divided by stone walls, afterwards by wooden partitions. The lancets were original, but Perpendicular windows were inserted later, and the windows of the abbot's pew were seen on the south. The nine altars was a favourite burial place for the abbots, 19 of whom were buried there.

We continued our peregrinations to the calefactory, the only room in the Abbey which was heated, and then into the refectory, which was a large room, the vault being supported by two rows of pillars. A crucifix hung at one end, and the pulpitum whence the reader read at meals, the book-closet, serving-hatch, and the holes from the calefactory, whence some heat passed into the chamber, were pointed out.

Hence we drove to Aldborough Manor House, where we were hospitably received by Sir Thomas and Lady Lawson Tancred, who entertained us to tea in their charming home. In the absence of the President, Mr. Ditchfield expressed the thanks of the members. Aldborough is the Roman Isurium, the most interesting Roman station in Yorkshire, and has been pronounced to be "one of the most important in the kingdom." In the grounds of the Manor House many relics have been found which are stored in a museum in the garden. Several cottages and the inn have museums of their own, and for a small charge their owners exhibit Roman pavements and other relics. The time did not permit of any close inspection. In the garden of the Manor House Sir Thomas pointed out the fragments of a stone cross which he had rescued from destruction.

Boroughbridge.

A visit was paid to the three remarkable "menhirs" or standing stones known as the "Devil's arrows," for which Boroughbridge is famous. Mr. William Dale, F.S.A., gave a brief address on these monuments of antiquity, which he said were not the work of the Druids, the Romans, or the Saxons, but were of a type well known in many parts of the world, and were megalithic monuments of the Neolithic or Newer Stone Age, and must be put back to a period two or three millenniums before the Christian era. The last place visited was

Kirk-Hammerton Church,

a complete Saxon fabric with later additions, where not only the nave but the chancel retain their original dimensions and with few alterations, their original masonry. In 1891 a new nave, chancel, and north aisle were added to the Saxon fabric. This, with its western tower, forms the south aisle and chapel of the new church. The plan is of the simplest character, and the structure appears to be all of one date. The masonry in the lowest courses of the south wall of the nave is composed of extremely large blocks of stone. It is probable that the fabric is of later Saxon origin on account of the recessing of the chancel arch.

WEDNESDAY, JULY 4.

The company started out again at 9 a.m. The first stopping place was

Sheriff Hatton Castle,

a high-towering formidable ruin, once the stronghold of the powerful family of the Nevilles. The present building is the remains of an Edwardian castle, though a Norman fortress stood here, erected by Bertram de Bulmar, Sheriff of Yorkshire, in 1140, from whom the place received its name. The present castle was built by Ralph Neville, first Earl of Westmorland, about 1410, and Leland wrote that "no house in the north so like a princely lodging." We then passed on to

Kirkham Priory Ruins.

It was founded in 1121 for Augustinian Canons. The founder was Walter de l'Espee, who endowed the Priory with lands and privileges. The principal feature is the fine gatehouse, which was originally Transition-Norman, and the small rooms on either side are of that date. The archway was rebuilt in the Early Decorated period by William de Ros, and bears several shields—Clare of England, Plantagenet, three arms of Ros and Vaux. The niches formerly held figures, but only two remain, and one alone can be identified—that of St. Bartholomew—and the other is probably St. Philip. We noticed also a sculpture of St. George and two figures fighting, which are variously interpreted to be either David and Goliath or a Ros fighting a Scot. Of the Priory Church the only remains are the base of the south wall and the nave and a single lancet of the choir with shafts and capitals. The cloister court remains, indications of the chapter house, which was small and of which little is left, the gable of the refectory, and the north wall with a Transition-Norman door-

way, a lavatory of later date of excellent design, and the wall of the dormitory on west of the cloister. The ruins were excavated in 1886. They are very little known, and few visitors ever come to see the place. It has always been a very lonely country, and the nuns of a neighbouring nunnery used to keep wolf-hounds to guard against robbers and outlaws. Thence the company drove to

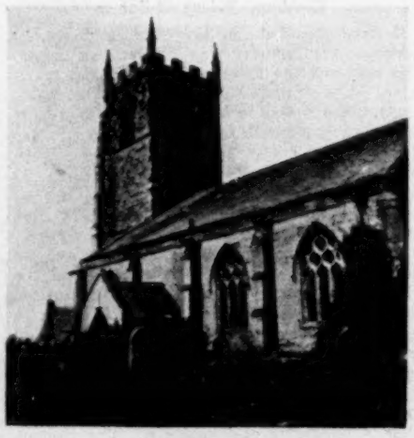
Old Malton,

a Priory founded in 1150 for the rare Order of Gilbertian Monks. Here we were met by the Vicar, the Rev. W. Ingram, who gave an excellent account of his church. He said it was a fragment of a once glorious Minster. The Gilbertian Order stood alone, and was a purely English Order, founded by St. Gilbert. He was a man of apostolic zeal, and led a severe and rigid life. The order consisted of monks and nuns, the former following the rule of St Augustine, the latter of St. Benedict. It has been supposed that he was buried here, but the real place of his sepulchre was Sempringham. The Order spread rapidly and at its suppression it had twenty-six houses. Old Malton was founded by Eustace FitzJohn in 1150, who also gave to the Order the church at Wintringham, the village of Linton, the church at Brimpton, and other endowments.

Mr. Johnston remarked on the beauty of the church and its extraordinarily interesting history, and pointed out the triforium, consisting of alternating quatrefoils, like Hexham. There was a survival of Norman detail in the scallop form of the capital, an elaboration of the cushion capital, somewhat similar to the Kirkstall corbel. He remarked on the Early English corbels adorned with flowers, the Perpendicular style of the north side, the octagonal piers with a series of niches, the beauty of the plain mouldings on the arches, resembling those at Ripon, and the late Norman west doorway. The next stopping-place was

Pickering,

a very ancient place, which boasts of a castle and great Lancastrian stronghold, still belonging to the Duchy of Lancaster. In the year 1851 some wall paintings were accidentally discovered during some repairs. The whole wall was then stripped of its covering, and careful copies made in colour of the subjects. They were then covered up again until 1879-89, when Mr. Jewett completed the task of removing the coating of yellow wash. Their treatment in 1851, and the affixing of monuments had damaged the lower part of St. George's body, the representation of Herod's feast, the lowest scene of St. Catherine's life; the death and the Assumption of the Blessed Virgin Mary, and in these cases restoration on the old lines, where possible, was necessary. The paintings originally done in tempera have in some parts been retouched in oil. The party then journeyed to



Bainton Church.

Lastingham,

with its memories of Early Northern Christianity. As Iona is associated with St. Columba, and Lindisfarn with St. Chad, this is connected with St. Cedd, Bishop of the East Angles. The crypt is the most interesting part of the church. It is untouched and unrestored, and although some have associated it with St. Cedd, it is doubtless the work of the Benedictines in 1088. The President discussed the question, and came to the conclusion that the cushion capitals were erected between the years 1068 and 1088. There are small circular-headed windows, with deep internal splays. Two small stone crosses with interlaced carving and a portion of a larger one—all Saxon—with a portable altar, are preserved here, and some carved woodwork. We drove on to

St. Gregory's Minster, Kirkdale,

where we were received by the vicar, the Rev. F. W. Powell, who has written a well-illustrated guide to his church, which is doubtless in the hands of most of the members. He first pointed out the famous sundial, now placed over the doorway; it tells the story of the church in early times: "Orm Gamel's son bought S. Gregory's Minster when it was all broken and fallen and he let it be made anew from the ground to Christ and S. Gregory in Edward's days the King in Tosti's days the Earl."

The central panel has on the dial:

"This is day's Sun marker at every time";

and at the foot:

"And Hawark me wrought and Brand priests."

From this we learn that the Minster was built in the seventh century and was destroyed by the Danes. Orm was Lord of Kirkdale, and Tosti was brother of Harold, who was slain at the Battle of Hastings. The church was rebuilt between 1055 and 1064. Mr. Powell then showed another monument of great antiquity—the coffin lid of Ethelwald, King of Deira 642. The inscription is in runes, but these are so obliterated that it is almost impossible to decipher them. Another stone with interlaced sculpture is said to be the coffin lid of Bishop Cedd. The church was until recently much disfigured by square pews and other unsightly accessories. Kirkdale is one of the latest survivals of distinctively Saxon art in the North of England. The north aisle was added at the end of the twelfth century. The tower is new, but the Saxon arch leading to it from the church remains. In the tower walls are some Saxon grave covers.

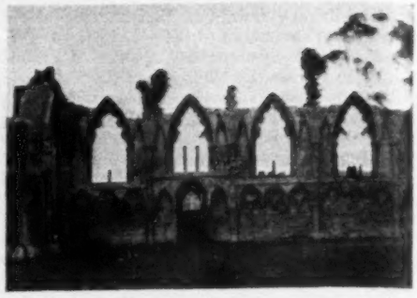
Helmsly church and castle time compelled us to pass, and at length we found ourselves at

Rievaulx Abbey,

the first Cistercian Abbey in Yorks and one of the most beautiful ruins. It is unnecessary in these notes to recount its history. We were much struck by the great work that is being done by the Office of Works. Much excavation has been done, under the charge of Mr. Peers, the Inspector of Ancient Monuments, and disclosed several chapels in the nave, the chapter house, and much else. The work is in progress, and most important discoveries are being made. (For a description and illustrations of the work see *The Builder* of July 13 last.)

Byland Abbey

was also visited, and we greatly admired the appearance of the immense rose window and other architectural beauties. It is the property of the nation, and is being restored by the Office of Works, under the guidance of Mr. Peers. Some beautiful tiles have been unearthed, and excellent examples of curious stonework. They are particularly clean, and Mr. Johnston suggested that they had been treated with stone pickle.



St. Mary's Abbey, York.

THURSDAY, JULY 5.

This day was devoted to the study of York itself, where many days might have been spent in examining its antiquities. The first building visited was

The Merchant Adventurers' Hall,

where we were received by Dr. Maud Sellers, who by birth bears the proud title of "Merchant Adventurer" and is a Fellow of Newnham College and Historical Lecturer at Sheffield University. This learned lady has a great affection for the Hall, a fourteenth-century structure, has studied deeply the history of the Company, and accomplished wonders in rescuing the building from decay and neglect. After inspecting some of the city churches, under the guidance of Mr. George Benson, A.R.I.B.A., we returned to the cathedral to examine the

Stained Glass of the Minster,

under the able guidance of the Rev. F. Harrison, one of the Vicar's Choral or Minor Canons, who has made a most careful study of the glass, which is being restored at a cost of £28,000. Mr. Harrison then conducted us to the curious and sad-looking Bederne Chapel, dedicated to the Holy Trinity. Mr. Hunt tells us in his programme that the name is derived from "bede," to pray, and "erne," a detached dwelling. It is the chapel of the College of Vicars Choral of the Minster. The College was founded in 1252, and the vicars worshipped therein and had a common dining-hall. There were thirty-six vicars, and the chapel had a chantry founded by Thomas Ottley. Some of the glass dated back to the fourteenth century, and £1,400 was paid to five priests. In 1868 the Ecclesiastical Commissioners took charge of the property, and the last service was held in this chapel. Since then it has fallen into decay. In 1919 it was not safe to enter it. £1,000 is needed to restore it.

The afternoon was spent in visiting the York churches and in attending evensong at the Minster; after which the party were entertained to tea at the Mansion House, by the kind invitation of the Lord Mayor and Lady Mayoress. After dinner the President delivered a well-illustrated lecture on "Beverley, Selby, and other places to be visited by the Association."

FRIDAY, JULY 6.

There is so much to see and to report on in this "county of broad acres" that it is necessary that the rest of this chronicle should be brief. Our programme on this day was considerably altered, and we first found ourselves at the church of

Kirby Underdale,

a small structure of early date on the slope of the dale. Indeed, there is a pre-Christian stone representing a Roman soldier, which connects the village with Roman times. The original church was pre-Conquest, consisting of a nave, tower, and apse, and no aisles. The walls have been stripped of plaster, a very undesirable proceeding, against which war should be continually waged. However,

this has revealed some herring-bone work which may be evidence of Saxon work. In the twelfth century aisles were added. The chancel is new, and the church was restored by Street in 1870, at the cost of Lord Halifax and the rector, the Rev. T. J. Monson. It was pointed out to me that the old font is in the churchyard and used as a drain-head. Can such desecration be possible? I hope I was deceived.

Passing on to

Kirkburne,

we found one of the most interesting churches in Yorkshire, which would require a long description. I must content myself with remarking that its architecture is Late Norman, much enriched. The chancel has been rebuilt. The font has been supposed to be Saxon, but it is really Early Norman. It has two series of sculptures, divided by a twisted band of ornament. In the upper row is depicted the Ascension, the Baptism of Our Lord, the presentation of the keys to St. Peter—twelve figures in all, some of which cannot be identified. In the lower there is the Agnus Dei, St. John Baptist, and quaint figures of animals which cannot be interpreted. There is a man carrying an axe, and another with a club. The church was described by the vicar, the Rev. A. J. Parkes.

Bainton Church,

the next stopping-place, is a good late fourteenth-century structure with Norman font. It has some Jacobean screenwork, and one of the finest brasses in Yorkshire—that of Sir Roger Godeale, rector in 1382. He has a chalice and wears amice, alb, apparel, stole, maniple, and chasuble. There is also the remarkable effigy of Sir Edmund de Manley, who died in 1314. He has a tonsured head, and was excommunicated for shedding blood in a church. He fought in the Battle of Bannockburn, and was drowned in the retreat after the battle.

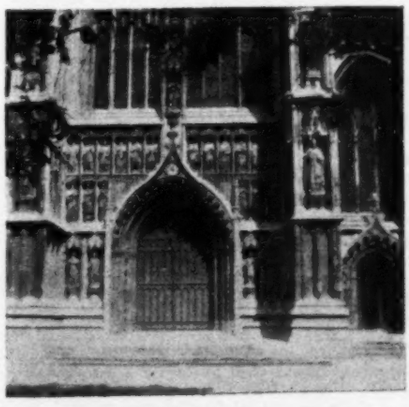
We then visited

Beverley,

and saw first the wonderful church of St. Mary, and then the still more beautiful Minster. These have been so often described by architects and are so well known that any account of them is unnecessary. We next journeyed to the very remarkable Late Norman church of

North Newbald,

in the middle of the Wolds, consisting of nave, central tower, transepts, and chancel, but no aisles. The chancel has been rebuilt. There is much evidence of zigzag ornament. Perpendicular tracery has been inserted in the east transept windows, but most of the windows are pure Norman of the date 1120. It is evident that the same gild of masons was employed in building the fine series of Norman churches in this part of Yorks.



Beverley Minster: West Front.

Goodmanham

was the scene recorded by Bede of the conversion of King Edwin and Corfi, the pagan priest, by Paulinus. The church is Early Norman, with a depressed chancel arch on which are traces of colour, the capitals being of unusual design. The font is said to have been that in which Edwin was baptised, but that is not so. It is Early Norman, and Edwin was baptised at York. There are two low side windows, which are rare in Yorkshire, and a squint. The mounds of the Saxon hall, the scene of Edwin's conversion, are still seen. We had a glimpse of the church at Londesborough, with its interesting Norman doorway, sundial, Early English font and tombs of the Cliffords and Boyles with armour hanging in north aisle; and then passed on to

Nunburnholme,

which has a Norman church much reconstructed. The old chancel arch has been removed to the west end. The chief object of interest is the Scandinavian cross in the churchyard, which was described by the Rev. F. C. M. Morris, son of the Rev. F. O. Morris, author of the "History of British Birds." Professor Collingwood pronounces it to be of the date the first quarter of the eleventh century, but it is probably much earlier. Want of space forbids a description. Returning to York, after dinner we heard a very interesting lecture by Mr. J. A. Knowles on "Stained Glass Windows."

The present writer was unable to accompany the last day's excursion on Saturday, July 7, which included visits to Stillingfleet, St. Helens, Cawood, Riccall, Skipwith, and Selby Abbey, and the length of this article prevents any further description of these places. The Congress may be pronounced to have been one of the most successful in recent years, and those who were fortunate enough to take part in it will retain many pleasant recollections of their wanderings in Yorkshire.

LAND FOR ROAD WIDENING.

Mr. Howard Martin, Official Arbitrator, sitting at Plymouth, heard a claim by Alfred Yeo, Evelina Yeo and James Biscombe against the Mayor, Aldermen and Burgesses of the Borough of Plymouth, concerning the compulsory acquisition by the latter of a piece of land containing 32,768 square feet, situated on the Tavistock-road, Plymouth, forming part of the Hartley Estate, together with lodge and premises erected thereon. The land has been acquired for road widening purposes at Hartley-hill.

The Official Arbitrator's award is as follows:—"That the Acquiring Authority is to pay the claimants the sum of £2,572 as compensation, including the sum of £315 agreed to be paid by the Acquiring Authority to the claimants in respect of works to fencing and gateways rendered necessary by the widening; it being further agreed that the Acquiring Authority in forming the slope of the cutting for the widening is also to form retaining walls to sustain the slope where necessary and to maintain the same at its own expense for two years from the completion of the slope and retaining walls, and I order the Acquiring Authority to pay the stamp duty and each party to pay its own costs."

A Decorators' Exhibition.

The Decorators' Exhibition, which is to open at the Holland Park Hall on October 17, is not a commercial venture, but is being organised by the master decorators themselves, through their National Federation, to stimulate interest in their craft and its doings.

Beverley Minster.

THE WEEK IN PARLIAMENT.

Westminster, *Wednesday.*

Housing Bill.

The Royal Assent has been given to the Housing (No. 2) Bill.

No Restrictions for New Houses.

Mr. Ede asked the Minister of Health what restrictions he intended to place on the price, whether for sale or letting, that might be charged by persons building houses with the assistance of public money under the Housing (No. 2) Bill.

Mr. N. Chamberlain said it was decided that no such conditions should be included in the Bill, and he did not propose to require the adoption of such conditions by local authorities.

Shortage of Bricklayers.

Sir W. Davison asked the Minister whether he was aware of the great shortage of bricklayers and plasterers throughout the country, whereby building operations were hampered and in some cases stopped and unemployment caused; and what steps were being taken to increase the number of bricklayers and plasterers and secure increased facilities for the training of apprentices.

Mr. N. Chamberlain said he was aware that there was some evidence of a scarcity of bricklayers and plasterers, although this hardly amounted to a "great shortage." The question of the provision of a sufficient supply of skilled workers in the building trade was one in the first place for the employers' and workers' organisations to consider, and he had no doubt that those organisations had the matter in mind.

New Houses Sanctioned.

Mr. N. Chamberlain said that approvals had been given to date in respect of 21,052 houses. As local authorities were not required to submit plans and full details when an application for subsidy was made, it was not possible to state the number of each type of house at the date of approval. Monthly returns of progress would, however, be obtained from local authorities and these would show the numbers of non-parlour and parlour houses being erected under approved schemes.

Tree Planting.

Mr. D. G. Somerville asked the Minister of Health whether he would urge on local authorities the desirability of tree planting on an extensive scale this winter, not only because of the value to the health of the community of this policy, but also to help existing unemployment.

Mr. N. Chamberlain said that local authorities had no general powers to undertake tree planting, except as incidental to the making of parks and roads and other works which they were authorised to undertake.

Summer Adjournment.

Parliament rose on Thursday, August 2, and will reassemble on Tuesday, November 13.

TOWN PLANNING: MODEL CLAUSES.*

MODEL clauses have recently been issued by the Ministry of Health for the guidance of local authorities in respect to town-planning schemes entered upon under the Housing, Town-Planning, &c., Acts, 1909 and 1919. Some salient features are given in these pages, but while these may help to indicate the general scope of the schemes, we recommend those interested to study the clauses in full. Broadly speaking, the new town-planning schemes are designed to remove the growth and development of towns and suburbs from the vagaries of chance and to allow of co-ordination and ordered expansion by bringing the area concerned within the jurisdiction of its local authority, and by allowing the relaxation of obstructive and antiquated by-laws, provision being made for appeal to the Minister of Health in the event of disagreement between owners and local councils. That these model clauses would, when adequately filled in, enable local authorities to exercise a wise control in almost every direction admits of no doubt. Powers are given to fix zones and densities suitable for residential, industrial, and other purposes; to establish building lines of sufficient elasticity to avoid monotony and to meet special circumstances; to combat the evils of smoke and noise; to restrict offensive advertising; to preserve existing trees, and to provide for reasonable parks and recreation grounds. We wish the Ministry had made definite recommendations in many cases where they have merely left blanks, for it must not be forgotten that the problems presented in preparing a town-planning scheme are new to many of our smaller authorities, and without experience to guide them they may find themselves in difficulties when it comes to making definite stipulations. It is, however, of supreme importance that expert advice should be sought in the preparation of schemes, and the Ministry no doubt had this in mind in preparing the skeleton model.

The clauses are to be regarded as subject to periodical revision, where experience dictates, and they are drafted on the basis of a scheme for an area wholly within the district of the local authority preparing the scheme, and will need adaptation to cases where the area is partly outside the district of the preparing authority, and more than one authority is concerned, or to other special features of a scheme. It will, of course, in practice almost always be necessary for a number of adjoining authorities to act in consultation, since, however well one district may be planned, it cannot function properly if treated as an entity not joined up in harmony with its neighbours. Local authorities have never been confronted with so heavy a responsibility as in the preparation of their town-planning schemes, and we feel confident that the large majority will spare neither time nor trouble in bringing them into efficient service.

It will be through the administration of these schemes that the English principle of decentralised local government will justify itself or stand condemned. Local Bumbledom can be quite as obstructive and reactionary as centralised bureaucracy, and it is essential that all ratepayers should learn to realise the importance of local elections. The habit of letting things slide and automatically leaving in office the same people year after year is too common and spells death to initiative and progress. While we are aware that our local authorities, taken as a whole, are fully alive to their opportunities, at the same time, in certain smaller towns, where the authorities and citizens are supine and indifferent, we can but be apprehensive of the fate of town-planning schemes, unless considerable pressure is brought to bear by the central authority.

The following are extracts from the model clauses:—

Restrictions upon Street Sites.—(9) No building shall be erected or other work done upon any land coloured pink on the map which, for the purpose of enabling street works to be executed, would require to be removed, pulled down or altered, except with the consent of the Council, and upon such terms and conditions with regard to such removal, pulling down or alteration, or otherwise as the Council may require.

Submission of Schemes of Development of Estates.—(1) Whenever a plan for a new street is submitted to the Council for approval, they shall by written notice request the owner of any land within that part of the area, the development of which will, in their opinion, be affected by the construction of the street to furnish them with plans and particulars showing generally a scheme for the development or laying out of the land. (2) Before approving the plan for the new street the Council shall take into consideration any plans and particulars which are furnished to them by any such owner within a reasonable time to be specified in the notice, being not less than one month from the date of the notice.

Relaxation of By-laws.—(1) Notwithstanding any provisions of the by-laws and local acts to the contrary, the Council may permit the construction of a new street—(*a*) of any one of the types described in the first schedule to this scheme; or (*b*) of such other type as the Minister may from time to time authorise the Council to permit: Provided that permission to construct a street of any one of the types described in the said Schedule shall be given only if, in the opinion of the Council, the street is not likely to be required for through traffic, and it shall be a condition of such permission that—(i) no buildings other than dwelling-houses or such public buildings (as respectively defined in clause 17) as the Council may approve shall be erected in the street; (ii) any portion of the surface of the street not constructed as carriage-way or footway shall be planted with grass, trees, or shrubs or treated in some other suitable manner to the reasonable satisfaction of the Council; (iii) any turning space which is required by the conditions set out in the schedule shall be of such dimensions that a circle with a diameter of 30 feet could be inscribed within the carriage-way of the street. (2) In the case of any street proposed to be constructed upon any land coloured pink on the map, the Council may, if they think it desirable that a part of such street should be constructed in advance of the remainder of the street, themselves construct such part, or may permit such part to be constructed, of a less width than is required by the by-laws and local acts. (3) In determining appeals made to him under Clause 10 the Minister shall have the same power of granting permission as the Council under this Clause.

Grass Margins, &c.—(1) The Council may lay out as a garden, any part of a street repairable by the inhabitants at large, or may plant any part of such street with grass, trees, or shrubs and erect guards therefor, and may maintain, alter or renew the part of the street so laid out or planted. (2) The Council may from time to time, rearrange the carriage-way, footway, and other parts of the street. (3) Where the Council execute street works upon any street declared under clause 6 of this part of the scheme, the Council shall plant with grass, trees or shrubs, or treat in other suitable manner any part of the street not constructed as carriage-way or footway, and shall provide convenient access from the carriage-ways and footways to any premises abutting on the street, and shall execute any works necessary for fencing off the street from the adjoining lands or for replacing any fences removed.

Adjustment of Boundaries of Streets.—For the purpose of adjusting the boundary of any street, the Council may make an exchange of land forming part of the street for other land, with or without paying or receiving any money for equality of exchange.

Buildings and Building Lines.

Interpretation.—In this part of the scheme, unless the context otherwise requires, the following expressions have the respective meanings hereby assigned to them:—"Dwelling-house" means a house designed for use as a dwelling for a single family, together with such outbuildings as are ordinarily required to be used therewith; "Residential building" means any building, other than a dwelling-house, designed for use for human habitation, together with such outbuildings as are ordinarily required to be used therewith, and includes a hotel and a residential club; "Shop" means a building designed for the purpose of carrying on retail trade; "Industrial building" means a building designed for use as a factory or a workshop within the meaning of the Factory and Workshops Acts, 1901 and 1907, and includes a warehouse, and a "building for noxious industry" means an industrial building designed for the purpose of carrying on any industry mentioned in the third schedule to this scheme; "Business premises" means a building designed for use as an office or for other business purposes, not being a shop or industrial building; "Place of assembly" means a building designed for use as a town hall, theatre, concert room, lecture hall, place of public worship, or other place of public assembly whether used for purposes of gain or not, and includes a non-residential club; "School" means a building designed for use as a college or school; "Institution" means a building designed for use as a hospital, workhouse, asylum, or other public or charitable institution, other than a place of assembly or a school; "Public building" means a place of assembly, institution or school; "Special building" means a building designed for any use other than one of the uses for which the buildings hereinbefore defined are designed; "Zone" means a portion of the area shown on the map by distinctive colouring, hatching or edging for the purpose of indicating the density or character of buildings prescribed therefor, and the terms "density zone" and "character zone" mean zones indicating restrictions as to density and character of buildings respectively. A "land unit" means a portion of land to be determined by the Council in accordance with the provisions of this Part of the Scheme for the purpose of limiting the number of building units [as calculated in accordance with Clause 18 (3)], which may be erected thereon.

The erection of a building includes:—(i) The re-erection, wholly or partially, of any building of which an outer wall is pulled down to or within ten feet of the surface of the ground adjoining the lowest story of the building, and of any frame building so far pulled down as to leave only the framework of the lowest story; (ii) The conversion of a building of any of the types hereinbefore defined into a building of any other of such types. The curtilage of a building includes the site of the building.

Combined Buildings and Building Units.—(1) Where a proposed building is designed for use both as a shop and as a dwelling for a single family, it shall be treated, for the purposes of this part of the scheme, as if it were a shop. (2) Subject as aforesaid, where a proposed building is designed for more than one use, the Council may decide for which of the uses the building shall be deemed to be designed for the purposes of this part of the scheme, and the Council may decide that the building shall be deemed to be designed for different uses for different purposes of this part of the scheme. (3) For the purposes of this part of the scheme a dwelling-house shall be reckoned as one building unit, and a building other than a dwelling-house as such number of building units as the Council may decide. (4) The owner of any building or of the site of any proposed building who feels aggrieved by a decision of the Council under this clause in respect of the building or proposed building may appeal to the Minister.

Primary Zoning.

Density of Buildings—Erection of Dwelling-houses and Residential Buildings.—No dwelling-house or residential building shall be erected upon land not included in a land unit.

Declaration of Land Units.—(1) Subject to the following provisions the Council shall, upon

* "Town Planning—Model Clauses." (London: H.M. Stationery Office, Imperial House, Kingsway. 1923. Price 1s. 6d. net.)

application being made to them by any owner of land or jointly by two or more owners of adjoining land, declare that the land in respect of which the application is made or such part thereof as they think fit shall form one or more land units. For this purpose the submission by an owner of a building plan shall be deemed to be an application for the declaration of a land unit in respect of the land included in the plan. (2) The Council may include in a land unit land belonging to the applicant other than that to which the application relates, but shall not, except with the consent of the applicant, so include the curtilage of a building commenced before . The Council may also include in the unit any land given by or acquired from the applicant for the purpose of a public open space or allotments after. . (3) The Council may require the applicant to submit a plan showing the whole of his land which is not already included in a land unit or such part thereof as they think fit. (4) Every land unit shall be contained wholly within one density zone. (5) No land unit shall exceed seven acres in extent. (6) The half of the width of any road dedicated to the public upon which any land proposed to be included in a land unit abuts shall be included in the land unit.

Calculation of Number of Building Units which may be erected.—(1) In the case of a land unit in respect of which a plot plan is not submitted to and approved by the Council under the next succeeding clause, the number of building units on the land unit shall not at any time exceed the number which will give the average per acre specified in the table below. For this purpose all buildings included in the land unit by consent of the owner under clause 20 (2), shall be taken into account.

Zone.	Average number of building units per acre over a land unit not to exceed
Zone A, coloured on the map	
Zone B, coloured on the map	
Zone C, coloured on the map	

(2) Where it appears to the Council upon representation being made by any owner of land that it would be unreasonable to require compliance with the provisions of this clause owing to difficulty in developing the land in accordance with those provisions on account of: (i) The lay out of any street on or adjoining the land constructed before; (ii) the small amount of land in the possession of the owner on , the Council may authorise a reasonable increase in the number of building units permitted to be erected on the land affected.

Plot Plans.—(1) Any owner of land within a land unit may, for the purpose of having the number of building units permitted to be erected on that land determined prior to sale or for any other reason, submit for the approval of the Council a plot plan showing the plots within the unit upon which it is proposed to build and the number of building units proposed to be erected on each plot. (2) The Council shall not approve a plot plan submitted to them under this clause unless the following conditions are complied with—(*a*) The curtilage of every building existing or commenced upon the land unit at the date of submission of the plot plan must be included in one or more of the plots; (*b*) The average number of building units shown on the plot plan as proposed to be erected per acre over the land unit must not exceed the average per acre permitted under the last preceding clause.

Erection of Buildings upon Land for which a Plot Plan has been Approved.—Where a plot plan for a land unit has been submitted to and approved by the Council under the last preceding clause—(1) No building shall be erected on any land within the land unit not included in a plot. (2) There shall not be erected upon any plot a greater number of building units than would give (together with the equivalent in building units of any buildings existing or commenced upon the plot at the date of submission of the plot plan) the number marked on the plot on the plot plan.

Character of Zones.—In giving their consent to the erection of a building the Council may impose such conditions as they think fit. In the case of any building proposed to be erected in zone which may be erected only with the consent of the Council, the Council, in giving or withholding their consent or imposing any conditions, shall have regard to the likelihood of the use for which the building is designed injuring the amenity of the zone, including, in the case of an industrial building, the likelihood of any injury due to the emission of smoke or fumes, or to dust, noise or smell, or other cause.

Supplementary Zoning.

Density and Character.—(1) If at any time the Council are of opinion that—(*a*) the buildings to be erected in any part of a character zone ought to be limited to one or more of the classes of buildings which are permitted under clause 28 to be erected in that zone; or (*b*) any class or classes of buildings which, under the provisions of clause 28 may only be erected in any zone with the consent of the Council can, consistently with the predominant use of the zone, be permitted to be erected in any part of the zone without such consent; or (*c*) the average number of building units permitted under clause 21 to be erected per acre ought to be varied over the whole or any part of density zones—the Council may make an order limiting the class or classes of buildings whose erection is permitted or giving a general consent to the erection of any class or classes of buildings in such part of the zone as aforesaid or varying the average number of building units permitted to be erected per acre in density zones , as the case may be, and may submit the order to the Minister for approval: provided that no order shall be made which would allow the average number of building units permitted to be erected per acre in zones to be increased to more than .

Height of Buildings. Limitation of Height of Buildings.—(1) (*a*) No building (not being an industrial building erected in character zones) shall be so erected or altered that:—(*a*) the highest point of the building, measured from the mean level of the ground immediately surrounding the building, exceeds feet in height; (*b*) any part of the building projects above any line drawn from the centre of the street in front of the building at an angle of ° (or if the street is of any one of the types described in the first Schedule to this scheme, °) with the horizontal: provided that—(i) For the purpose of the foregoing provisions account shall be taken of parapets but not of chimneys, ornamental towers, turrets or any other such architectural features; (ii) In the case of a building erected at the corner of two or more intersecting streets the height of the building shall be determined by reference to the wider or widest street; (iii) In the case of a place of assembly the Council may permit either or both of the limits imposed by this clause to be exceeded to such extent as they may think fit. (2) No dwelling-house erected in the zone edged on the map shall contain more than two storeys, exclusive of any storey constructed wholly or partly in the roof and exclusive of any storey the floor of which is more than 6 feet below the mean level of the centre of the street in front of the building: provided that, if in the case of a group of contiguous dwelling-houses not exceeding six in number it is desired to maintain the height of all the dwelling-houses forming the group at the same level, not more than four of the dwelling-houses may, where the slope of the street in front thereof renders it necessary, contain three storeys, exclusive of any storey constructed wholly or partly in the roof.

Space about Buildings.—Space within Curtilage of Buildings which may be covered by Buildings.—In the case of a building whose erection is commenced after the proportion of land within its curtilage which may be occupied by buildings shall not exceed the proportion indicated. In the case of a building whose erection in commenced before no alteration shall be made thereto such that the area of the ground covered by the building on that date would be increased by more than 20 per cent. if the proportion of land occupied by buildings within the curtilage of the building as altered would exceed the proportion indicated: provided that—(*a*) The Council may permit the proportion to be increased in the case of a building erected before , or where, owing to a building abutting on two or more streets, or by reason of any other exceptional circumstances, they think fit so to do; and (*b*) in the case of a dwelling-house which (i) is, in the opinion of the Council, adjacent to the junction of two or more streets, or (ii) is situated within the zone edged on the map, the proportion of land within the curtilage thereof which may be occupied by buildings, may exceed the proportion indicated in the Table, but shall not exceed ; (*c*) the provisions of this clause shall not preclude the erection of a building proposed to be erected by virtue of an exemption granted under clause 21 (2).

Breaks in Building.—(1) Not more than dwelling-houses or residential buildings shall be erected in one continuous block, and no detached dwelling-house or residential building or block of dwelling-houses or residential buildings shall be erected nearer to a building or block of any of those types than feet or nearer to any other building than feet. No building shall be erected nearer to the owner's boundary, or to a building or block of any of the aforesaid types, than feet.

Power to Permit Buildings in Advance of Building Line.—Notwithstanding the foregoing provisions of this clause, the Council may, if they think fit, permit—(*a*) the projection in front of the building line of any bay window, porch or other projecting portion of a building; (*b*) in the case of industrial buildings, the erection of the building at such distance, not being less than feet from the boundary of any street, as the Council may specify; (*c*) the erection of groups of shops and business premises at such distance, not being less than feet from the boundary of any street, as the Council may specify; (*d*) the erection in front of the building line of any building where, by reason of the levels of the site or of any adjoining land, or by reason of any other exceptional circumstances, or for purposes of architectural effect, such permission is, in the opinion of the Council, advisable; (*e*) the erection in front of the building line of a lodge or other building to be used in connection with a dwelling-house, provided that the lodge or building shall not exceed two storeys in height and shall not be nearer than ten feet to the boundary of the street.

General Convenience and Amenity.

Safety of Traffic.—(1) If at any time the Council are of opinion that, for the purpose of securing the safety of traffic, the height of close fences and walls, the growth of hedges, trees and shrubs, and the erection of other obstructions upon any land adjoining any street or the site of any proposed street ought to be regulated, the Council may prescribe a line upon the land, and shall thereupon give notice of the line prescribed to the owner and occupier of the land; provided that where a building line is shown on the map or has been fixed by the Council under this scheme in respect of the street or proposed street, any line prescribed under this clause shall be between that building line and the boundary of the street. (2) Where a line is prescribed by the Council under this clause, no wall, fence, hedge, tree or shrub or other obstruction (other than temporary structures erected in connection with building operations), shall be erected or be permitted to grow between that line and the boundary of the street or proposed street so as to cause danger to traffic by obscuring the view. (3) The

Council may, from time to time, vary any line so prescribed, and shall give notice of the variation to the owner and occupier of the land. (4) No proceedings in respect of any contravention of this clause shall be taken until fourteen days after notice has been given to the person in default.

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Maintenance of Private Gardens.—If any private garden or private open space (as defined in Part IV. of this scheme) is in such a condition that it injures the amenity of the neighbourhood, the Council may serve a notice on the occupier, or, if there is no occupier, on the owner of the garden or open space, requiring him within a reasonable time to be specified in such notice to take such action as is necessary to secure the amenity, and in default of compliance with such notice the Council may themselves do anything required to be done for that purpose, and may recover the cost from the person or persons served with the notice or from any one or more of them.

Town-Planning Institute Conference.

The fifth annual country meeting of the Town-Planning Institute will be held at York from October 5 to 7. Members will travel down on Thursday evening, October 4.

The York Corporation has invited the Institute to hold its meetings at the Guildhall, and there will be a reception in the State Room at the Mansion House. The City Engineer will describe the town-planning proposals of the City of York, and the winning design of the Town-Planning Competition, held just prior to the war, will be on view. Messrs. Rowntree have invited the members to visit the Earswick Garden Village, and its plan and method will be explained. Mr. F. C. Mears (member) will read a paper entitled: "The Planning of Mediæval Cities," illustrated by lantern slides. The meeting is not confined to men or members of the Institute only; friends are invited.

THE ROYAL SANITARY INSTITUTE.

ANNUAL CONGRESS—1.

THAT the pleasure of a visit to Folkestone or Bournemouth in the summer was not responsible for the success which attended the annual congresses of the Royal Sanitary Institute in 1921 and 1922 is indicated by the record attendance at this year's congress, which was held at Hull last week. Though Hull does not claim to have the attractions of a popular South Coast holiday resort, its congested districts, its docks, and its industrial areas proved to be a source of great interest to those concerned with questions affecting the well-being and health of the population.

The congress was officially opened on Monday, July 30, by the President, the Right Hon. T. R. Ferens, P.C., High Steward of Hull, who expressed his appreciation of the selection of Hull as the meeting place of the thirty-fourth annual congress of the Institute, and extended a warm Yorkshire welcome to the members and delegates present. In the course of his address he deprecated the policy now being adopted by some towns of postponing improvement schemes on the ground of economy. In referring to Hull as a port, he mentioned that the imports of foodstuffs alone reached a total value of £60,000,000 in 1921, which figure was surpassed only by London and Liverpool. Dealing with the housing problem, he estimated that at the present time Hull required 6,000 more houses. "It is," he said, "no use attempting to instil the precepts of hygiene into people who live in the many dilapidated and insanitary dwellings which to-day exist in the slum areas of all our towns and cities, or into those who have to live crowded in lodging-houses in the most unsavoury parts of our towns. . . . I would go so far as to say that the amelioration of most of our national social and economic evils depends first upon the dissipation of the housing stress which now prevails."

The meetings of the various sections were held in the mornings, and the afternoons were devoted to visits to works and places of interest in the neighbourhood.

Although most of our readers will be more interested in the proceedings of the Section on Engineering and Architecture (reported on the next page), many useful and suggestive passages occurred in some of the papers read before the other sections.

The Slum Problem.

In the course of a paper entitled "Slum Areas: Their Treatment and Cure," read before the Section of Engineers and Surveyors, Mr. A. Horsburgh Campbell, M.Inst.C.E., City Engineer and Director of Housing of Edinburgh, put forward the suggestion that it would be a wise and prudent act of public policy if local authorities would proceed to acquire the whole of the slum property within their administrative areas, even although they were unable at once to demolish and to re-house the population on other sites. Not, of course, to hold *sine die*, but at once to ameliorate slumdom in its existing physical state of decay by the execution of temporary repairs, by cleansing, and by bettering its sanitary arrangement and equipment. That was advocated as a temporising work pending the time when the housing needs of the country were less straitened, and the building of new houses for the slum-dweller had become an accomplished fact. Till then he urged them not to remain passive and inactive, nor leave the slum-dweller to exist in his present state. Favoured by the tide of public sentiment on the question, they should go forward now with at least some real proof and evidence of immediate constructive effort to improve the housing conditions of those who were unable to help themselves, and whose domestic conditions cried out most for help. The alternative, he said, was to do nothing with slums until new houses could first be provided. But with the prevailing housing famine, the shortage of man-power and materials to build, and the immensity of the slum-problem of the nation, the re-housing of the poorest part of the community was a work which must take at least a generation to accomplish. Hence, then, the case and the plea for the initiation of an immediate constructive step which would temporarily ameliorate the conditions of the slum-dweller, and so carry him over that period that must elapse before the slums could be altogether wiped out and a new creation arise in their place.

The Manufacture of Portland Cement.

"Portland Cement: Its Manufacture and Uses," was the title of a paper by Mr. G. V. Maxted, M.Inst.C.E. In the course of a very complete description of the manufacture of Portland cement, he said the manufacture of that material had during the last few decades become a highly-specialised engineering and chemical industry, in which the best engineering and chemical knowledge was made use of in practically all the cement factories throughout the world. In recent years, since the advent of the rotary kiln and the British Standard Specification, together with the rapid advance of technical knowledge, the quality of Portland cement produced by most makers was not only thoroughly reliable, and of high tensile and compressive strength, but the knowledge of those engineers who used the material had advanced with equally rapid celerity, so that nowadays it was a most unusual thing to learn that the quality of the cement used had let down engineers employed in designing important public works and buildings in which it was so successfully used.

Economies in Swimming Bath Upkeep.

At the conclusion of a paper describing the installation of continuous filtration plant at three public swimming baths in Hull, Mr. T. Thomas, Deputy City Engineer, summarised his experience of the working of the plant as follows:—(1) Bath water during a period of six months' filtration has been shown by bacteriological examination to be maintained at a standard of purity which is equal to, or little below, the accepted standards for drinking water. (2) The standard of purity is higher than fresh water in the swimming bath after its use by 50 or 60 persons. (3) The water is clear, odourless, and tasteless to the bather, and no complaint has been received as to the condition of the water. (4) There is a very appreciable saving in water, coal, and attendance, and the total cost of a filtration plant, including the necessary buildings, can be paid off in 12 to 15 years from the savings effected. (5) The water is maintained at nearly the same standard of purity, and the baths are more regularly used by bathers who formerly only visited the baths on fresh-water days.

Domestic Labour-Saving.

The necessity for designing houses so that they will be economical of labour was emphasised by Miss S. M. Bushell, Honorary Secretary of the Women's Section of the Garden Cities and Town-Planning Association, in a paper on "Hygiene and the Labour-Saving House," in which the following points were put forward:—Houses should be built with surfaces which will not collect dust. The walls and floors should be smooth, with no roughnesses or cracks, so that when they are cleaned no dust will be left behind; besides this there should be no crevices or ledges, and mouldings should be of the plainest description. Corners should not be permitted. Where two surfaces join, such as two walls, the corner is not difficult to clean, but where three surfaces meet, such as two walls and the floor, it is impossible. Every room in the house should get the sunshine at some hour of the day. Windows should be of good size and reach to within a few inches of the ceiling in order that

the light may penetrate to the far side of the room. In kitchens and sculleries two lights, one over the sink and the other over the stove, will save eye-strain as well as labour. A bathroom is a real necessity, and a constant supply of hot water laid on to sink, bath, and washbasin is about the most labour-saving thing one can have. Each bathroom should have a washbasin. A boiler for the weekly wash should always be provided in small houses. The problems of hot water supply and of rubbish burning can both be settled by installing a small independent boiler; it is the cheapest and most efficient method of heating water, and has the additional advantage of daily burning the rubbish without betraying the fact with a smell. The larder is a most important part of the house, both from the health and from the labour-saving standpoint; it is essential that it be ventilated and fly-proof; a cool aspect, preferably north, is needed, and it is important that it be easily accessible. In addition to the larder there should be a store for spare crockery, jam, &c., and there should also be a place for the pram.

The Supply of Small Houses.

Speaking before the Sanitary Inspectors' Section, on "Difficulties and Problems Confronting Sanitary Inspectors and Property Owners," Alderman M. Cheverton-Brown (Secretary of the National Federation of Property Owners and Ratepayers) said to-day, by reason of the adverse legislation of the past twelve or fifteen years, small houses had ceased to be produced and there were for this type of property more sellers than buyers. Until that state of things was changed, until all restrictions were removed and freedom of contract became once more operative, small houses would not again be regarded favourably as an investment, and consequently they would not be produced. Production by the State or by municipalities on uneconomic lines had already hung a millstone of expense and obligations round the neck of the taxpayer and ratepayer, which further schemes on similar lines could and would but increase and perpetuate. Subsidies in any form would never, in his opinion, produce the 80,000 houses needed every year in this country to meet normal requirements at economic rents, to say nothing of the shortage of half a million houses or so already existing. The remedy, and the only remedy in the opinion of those who really understood the question, was the removal of restrictions, the restoration of confidence amongst investors, and the encouragement of private enterprise.

ENGINEERING AND ARCHITECTURE SECTION.

Presidential Address.

In his Presidential Address to the Section of Engineering and Architecture, Alderman W. C. Fenton, F.R.I.B.A., J.P. (Lord Mayor of Sheffield), said the past ten years had seen a remarkable advance in engineering as applied to sanitary matters. Architecture and engineering went hand-in-hand to a very large extent. One method of construction in which he had taken great interest was the ferro-concrete construction of buildings, which he had found most useful for ordinary buildings as well as for engineering structures. He had had the opportunity of using it for quite large buildings—combined with brick and stone for ornamentation—and he had shortly to put in hand a large block of offices and warehouses constructed entirely of ferro-concrete. There was no doubt whether fine or refined mouldings could easily be worked in this method, but bold striking mouldings and general decorative effect could be well accomplished in this method of construction. It was eminently a sanitary form of building. There were no hollow spaces for vermin, and it was far more weather-proof than ordinary brick or stone walling. He felt certain that that form of construction had great possibilities before it, and that its use would become more general.

Referring to building by-laws, he said it was satisfactory to note that the Ministry of Health was requiring old and obsolete building by-laws to be amended to provide for more modern modes of construction, and particularly to enable houses to be built at a less cost. There had, in the past, been too much stress laid on the fire insurance point of view in those by-laws, and, in his opinion, the insurance companies were well able to look after themselves. Of course, public authorities must take, or insist upon, all reasonable precautions to prevent fire, but having done that anything more became a deterrent to building and was a curse rather than a blessing. He had had experience of an entirely wooden-built village erected by a large corporation for the men engaged upon the construction of waterworks, and that had been built 10 years without a single fire. But if it had been proposed to erect it in any ordinary town, or under ordinary by-laws, it would not have been allowed. It was another proof that even wooden buildings could be used with safety, and incidentally last a number of years. Those houses would pay for themselves long before their life was exhausted, and were not only comfortable in their appointments but had been highly praised by all who had visited them as well as by the occupiers. The general shortage of houses had provided architects with splendid opportunities of showing their skill in designing houses for the working classes as well as for those of slightly more ample means, and he thought they had justified their profession in a remarkable manner.

The first two papers, namely, "Reinforced Concrete in Municipal Engineering Works," by Mr. G. W. Palethorpe, A.M.Inst.C.E., and "Some Modern Materials and Methods of Construction for Use in Buildings," by Mr. H. D. Searles-Wood, F.R.I.B.A., were taken as read, and discussed together.

CONCRETE IN MUNICIPAL WORKS.

In his paper, Mr. Palethorpe pointed out that during the last few years reinforced concrete had made rapid strides, and had undoubtedly been the means of effecting great saving in initial outlay and annual maintenance, with a considerable reduction of risk of destruction by fire. From quite an early date reinforced concrete had been much used in m[illegible]al work, and there was probably no bran[illegible] of engineering that had employed it to better advantage. There were very few works in which the construction did not commend itself very favourably, and the advantages of reinforced concrete would be admitted by all in the construction of foundations, bridges, reservoirs, retaining walls, and various other works.

Some of the advantages of the use of reinforced concrete were as follows:—

(1) The bulk of the work was carried out by unskilled or semi-skilled labour; the only tradesmen required were the joiners for the formwork and blacksmiths for bending the steel, but with the aid of bending machines the rods could be bent cold and the smith's work brought to a minimum.

(2) Reinforced concrete increased very much in strength with age, and might be considered practically indestructible. No painting or maintenance was required as in the case of steel and wood, and it was quite easy to repair any part of a structure which might accidentally become damaged.

(3) A building of reinforced concrete was practically fireproof. In most cases a cover of one inch of concrete was sufficient to protect the steel from fire, though an aggregate that would splinter with heat, such as limestone, should be avoided. Experiment and actual experience showed that the smaller the aggregate the less the injury.

(4) Structures in reinforced concrete, being monolithic, offered great resistance to vibration, which made them invaluable in the case of engine houses, mills and factories.

(5) A great advantage in favour of reinforced concrete from the point of view of the designer, was that owing to the monolithic construction most of the beams and slabs might be considered as being either fixed or partially fixed, with a considerable reduction of the bending moments.

(6) In construction reinforced concrete allowed more adaptability than any other material. It not infrequently happened that owing to a soft place in the ground foundations had to be altered, or owing to unforeseeen circumstances the spacing of columns, &c., had to be amended. Everyone with experience of steel construction knew the delay caused by any alteration, whereas reinforced concrete was comparatively easy to alter, but in all cases the designer must be consulted before any deviation from the plans were made.

(7) In most cases reinforced concrete would compare favourably in cost with average brick or steel construction, and where local conditions were advantageous the saving in first cost might be as much as 30 per cent.

(8) The material had great possibilities for architectural treatment, though successful instances were still rare.

(9) A very great advantage at the present time from a municipal point of view was that the work could be used for unemployment relief works, and grants could be obtained from the Government for that purpose. Many bridges had been constructed recently by the aid of grants that would probably have had to wait for ten years or more, and with the great increase of motor traffic in recent years, and the very weak condition of many highway bridges all over the country, a great saving had been effected for the ratepayers. There was no other material which could be used for building purposes that could be carried out by unemployed labour.

There were a few disadvantages in the use of reinforced concrete, but for certain structures, if both sides were carefully weighed up, the advantages completely outweighed the disadvantages.

Municipal Concrete Buildings in Hull.

To instance the various uses that reinforced concrete can be put to, he gave a few details of works that had been constructed by the Hull Corporation.

Bridges.—There were at present 12 bridges of spans up to 40 ft., either erected or in course of erection; they were of arch, or beam and slab, construction. The bridge in Cleveland-street over the Fordyke Stream, built in 1902, was the first reinforced concrete highway bridge constructed in this country.

Sewage Pumping Stations.—Owing to the extreme flatness of the district, the drainage of the outlying parts of the city had to be pumped to the high level sewers by means of sub-stations. There were five of these stations, all built of reinforced concrete. The pump chambers were 8 ft. 6 in. sq. by 20 ft. deep, with reinforced concrete walls 10 in. thick.

Stores for Tramway Department.—Built in 1912 this building consisted of reinforced concrete framework, floors, and roof trusses. The walls were of 9 in. brickwork throughout, each floor carrying its own wall. That was a good instance of the economy of reinforced concrete, as if the walls had been of ordinary brick construction the thickness at the base would have been 27 in.

Workshop and Garage.—This building, built in 1921, was 52 ft. by 38 ft., and consisted of reinforced concrete framework with 2 in. panelled walls, reinforced with steel lathing.

Electricity Sub-station.—This structure, at St. Andrew's Dock, was built in 1912, and was 30 ft. by 20 ft., and consisted of reinforced concrete framework with 4 in. walls.

Sewer Syphons.—There were four inverted syphons carrying sewage under large agricultural drains, at present in course of construction; they were of 36 in. diameter reinforced concrete tubes of Stanton-Hume manufacture, each 4 ft. long, surrounded by concrete. Previous syphons had been of cast iron. The price of the concrete tubes was 50s. 3d. per yd., and the approximate price of cast iron pipes was 99s. per yd. It was anticipated that there would be a considerable saving in cost of laying owing to the more easy handling of the short pipes.

Concrete Sewers.—The Corporation had constructed several concrete sewers, 5 ft. by 3 ft. 4 in. elliptical, and 4 ft. by 2 ft. 8 in. and 3 ft. 6 in. by 2 ft. 4 in. egg-shaped, the sides being from 7 in. to 9 in. thick, according to their position. Several of those sewers had been made recently as unemployment relief works. The

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Domestic Labour-Saving.

The necessity for designing houses so that they will be economical of labour was emphasised by Miss S. M. Bushell, Honorary Secretary of the Women's Section of the Garden Cities and Town-Planning Association, in a paper on "Hygiene and the Labour-Saving House," in which the following points were put forward:—Houses should be built with surfaces which will not collect dust. The walls and floors should be smooth, with no roughnesses or cracks, so that when they are cleaned no dust will be left behind; besides this there should be no crevices or ledges, and mouldings should be of the plainest description. Corners should not be permitted. Where two surfaces join, such as two walls, the corner is not difficult to clean, but where three surfaces meet, such as two walls and the floor, it is impossible. Every room in the house should get the sunshine at some hour of the day. Windows should be of good size and reach to within a few inches of the ceiling in order that

the light may penetrate to the far side of the room. In kitchens and sculleries two lights, one over the sink and the other over the stove, will save eye-strain as well as labour. A bathroom is a real necessity, and a constant supply of hot water laid on to sink, bath, and washbasin is about the most labour-saving thing one can have. Each bathroom should have a washbasin. A boiler for the weekly wash should always be provided in small houses. The problems of hot water supply and of rubbish burning can both be settled by installing a small independent boiler; it is the cheapest and most efficient method of heating water, and has the additional advantage of daily burning the rubbish without betraying the fact with a smell. The larder is a most important part of the house, both from the health and from the labour-saving standpoint; it is essential that it be ventilated and fly-proof; a cool aspect, preferably north, is needed, and it is important that it be easily accessible. In addition to the larder there should be a store for spare crockery, jam, &c., and there should also be a place for the pram.

The Supply of Small Houses.

Speaking before the Sanitary Inspectors' Section, on "Difficulties and Problems Confronting Sanitary Inspectors and Property Owners," Alderman M. Cheverton-Brown (Secretary of the National Federation of Property Owners and Ratepayers) said to-day, by reason of the adverse legislation of the past twelve or fifteen years, small houses had ceased to be produced and there were for this type of property more sellers than buyers. Until that state of things was changed, until all restrictions were removed and freedom of contract became once more operative, small houses would not again be regarded favourably as an investment, and consequently they would not be produced. Production by the State or by municipalities on uneconomic lines had already hung a millstone of expense and obligations round the neck of the taxpayer and ratepayer, which further schemes on similar lines could and would but increase and perpetuate. Subsidies in any form would never, in his opinion, produce the 80,000 houses needed every year in this country to meet normal requirements at economic rents, to say nothing of the shortage of half a million houses or so already existing. The remedy, and the only remedy in the opinion of those who really understood the question, was the removal of restrictions, the restoration of confidence amongst investors, and the encouragement of private enterprise.

ENGINEERING AND ARCHITECTURE SECTION.

Presidential Address.

In his Presidential Address to the Section of Engineering and Architecture, Alderman W. C. Fenton, F.R.I.B.A., J.P. (Lord Mayor of Sheffield), said the past ten years had seen a remarkable advance in engineering as applied to sanitary matters. Architecture and engineering went hand-in-hand to a very large extent. One method of construction in which he had taken great interest was the ferro-concrete construction of buildings, which he had found most useful for ordinary buildings as well as for engineering structures. He had had the opportunity of using it for quite large buildings—combined with brick and stone for ornamentation—and he had shortly to put in hand a large block of offices and warehouses constructed entirely of ferro-concrete. There was no doubt whether fine or refined mouldings could easily be worked in this method, but bold striking mouldings and general decorative effect could be well accomplished in this method of construction. It was eminently a sanitary form of building. There were no hollow spaces for vermin, and it was far more weather-proof than ordinary brick or stone walling. He felt certain that that form of construction had great possibilities before it, and that its use would become more general.

Referring to building by-laws, he said it was satisfactory to note that the Ministry of Health was requiring old and obsolete building by-laws to be amended to provide for more modern modes of construction, and particularly to enable houses to be built at a less cost. There had, in the past, been too much stress laid on the fire insurance point of view in those by-laws, and, in his opinion, the insurance companies were well able to look after themselves. Of course, public authorities must take, or insist upon, all reasonable precautions to prevent fire, but having done that anything more became a deterrent to building and was a curse rather than a blessing. He had had experience of an entirely wooden-built village erected by a large corporation for the men engaged upon the construction of waterworks, and that had been built 10 years without a single fire. But if it had been proposed to erect it in any ordinary town, or under ordinary by-laws, it would not have been allowed. It was another proof that even wooden buildings could be used with safety, and incidentally last a number of years. Those houses would pay for themselves long before their life was exhausted, and were not only comfortable in their appointments but had been highly praised by all who had visited them as well as by the occupiers. The general shortage of houses had provided architects with splendid opportunities of showing their skill in designing houses for the working classes as well as for those of slightly more ample means, and he thought they had justified their profession in a remarkable manner.

The first two papers, namely, "Reinforced Concrete in Municipal Engineering Works," by Mr. G. W. Palethorpe, A.M.Inst.C.E., and "Some Modern Materials and Methods of Construction for Use in Buildings," by Mr. H. D. Searles-Wood, F.R.I.B.A., were taken as read, and discussed together.

CONCRETE IN MUNICIPAL WORKS.

In his paper, Mr. Palethorpe pointed out that during the last few years reinforced concrete had made rapid strides, and had undoubtedly been the means of effecting great saving in initial outlay and annual maintenance, with a considerable reduction of risk of destruction by fire. From quite an early date reinforced concrete had been much used in municipal work, and there was probably no branch of engineering that had employed it to better advantage. There were very few works in which the construction did not commend itself very favourably, and the advantages of reinforced concrete would be admitted by all in the construction of foundations, bridges, reservoirs, retaining walls, and various other works.

Some of the advantages of the use of reinforced concrete were as follows:—

(1) The bulk of the work was carried out by unskilled or semi-skilled labour; the only tradesmen required were the joiners for the formwork and blacksmiths for bending the steel, but with the aid of bending machines the rods could be bent cold and the smith's work brought to a minimum.

(2) Reinforced concrete increased very much in strength with age, and might be considered practically indestructible. No painting or maintenance was required as in the case of steel and wood, and it was quite easy to repair any part of a structure which might accidentally become damaged.

(3) A building of reinforced concrete was practically fireproof. In most cases a cover of one inch of concrete was sufficient to protect the steel from fire, though an aggregate that would splinter with heat, such as limestone, should be avoided. Experiment and actual experience showed that the smaller the aggregate the less the injury.

(4) Structures in reinforced concrete, being monolithic, offered great resistance to vibration, which made them invaluable in the case of engine houses, mills and factories.

(5) A great advantage in favour of reinforced concrete from the point of view of the designer, was that owing to the monolithic construction most of the beams and slabs might be considered as being either fixed or partially fixed, with a considerable reduction of the bending moments.

(6) In construction reinforced concrete allowed more adaptability than any other material. It not infrequently happened that owing to a soft place in the ground foundations had to be altered, or owing to unforeseeen circumstances the spacing of columns, &c., had to be amended. Everyone with experience of steel construction knew the delay caused by any alteration, whereas reinforced concrete was comparatively easy to alter, but in all cases the designer must be consulted before any deviation from the plans were made.

(7) In most cases reinforced concrete would compare favourably in cost with average brick or steel construction, and where local conditions were advantageous the saving in first cost might be as much as 30 per cent.

(8) The material had great possibilities for architectural treatment, though successful instances were still rare.

(9) A very great advantage at the present time from a municipal point of view was that the work could be used for unemployment relief works, and grants could be obtained from the Government for that purpose. Many bridges had been constructed recently by the aid of grants that would probably have had to wait for ten years or more, and with the great increase of motor traffic in recent years, and the very weak condition of many highway bridges all over the country, a great saving had been effected for the ratepayers. There was no other material which could be used for building purposes that could be carried out by unemployed labour.

There were a few disadvantages in the use of reinforced concrete, but for certain structures, if both sides were carefully weighed up, the advantages completely outweighed the disadvantages.

Municipal Concrete Buildings in Hull.

To instance the various uses that reinforced concrete can be put to, he gave a few details of works that had been constructed by the Hull Corporation.

Bridges.—There were at present 12 bridges of spans up to 40 ft., either erected or in course of erection; they were of arch, or beam and slab, construction. The bridge in Cleveland-street over the Fordyke Stream, built in 1902, was the first reinforced concrete highway bridge constructed in this country.

Sewage Pumping Stations.—Owing to the extreme flatness of the district, the drainage of the outlying parts of the city had to be pumped to the high level sewers by means of sub-stations. There were five of these stations, all built of reinforced concrete. The pump chambers were 8 ft. 6 in. sq. by 20 ft. deep, with reinforced concrete walls 10 in. thick.

Stores for Tramway Department.—Built in 1912 this building consisted of reinforced concrete framework, floors, and roof trusses. The walls were of 9 in. brickwork throughout, each floor carrying its own wall. That was a good instance of the economy of reinforced concrete, as if the walls had been of ordinary brick construction the thickness at the base would have been 27 in.

Workshop and Garage.—This building, built in 1921, was 52 ft. by 38 ft., and consisted of reinforced concrete framework with 2 in. panelled walls, reinforced with steel lathing.

Electricity Sub-station.—This structure, at St. Andrew's Dock, was built in 1912, and was 30 ft. by 20 ft., and consisted of reinforced concrete framework with 4 in. walls.

Sewer Syphons.—There were four inverted syphons carrying sewage under large agricultural drains, at present in course of construction; they were of 36 in. diameter reinforced concrete tubes of Stanton-Hume manufacture, each 4 ft. long, surrounded by concrete. Previous syphons had been of cast iron. The price of the concrete tubes was 50s. 3d. per yd., and the approximate price of cast iron pipes was 99s. per yd. It was anticipated that there would be a considerable saving in cost of laying owing to the more easy handling of the short pipes.

Concrete Sewers.—The Corporation had constructed several concrete sewers, 5 ft. by 3 ft. 4 in. elliptical, and 4 ft. by 2 ft. 8 in. and 3 ft. 6 in. by 2 ft. 4 in. egg-shaped, the sides being from 7 in. to 9 in. thick, according to their position. Several of those sewers had been made recently as unemployment relief works. The

price of a 3 ft. 6 in. by 2 ft. 4 in. sewer 10 ft. deep, carried out by that labour, cost £4 10s. per yd. complete. Briefly, the construction was as follows:—When the excavation was completed, 6 in. of concrete was put in the bottom, and on this pre-cast concrete invert blocks were laid to correct falls. The wood formwork was made in two portions, each 6 ft. long, the lower part being collapsible to facilitate removal; 6 bottoms and 12 tops were used on each job. The bottom formwork was placed on the blocks and strutted off the sides of the trench, and concrete placed around and well rammed. The top centres were supported from the invert blocks and the concreting completed. The bottoms could be stripped after 24 hours, whereas the tops required at least two days. The concrete was usually 8 to 1, and the aggregate a mixture of sand and shingle.

Electricity Works.—In 1915 a new turbine house, 65 ft. by 105 ft., and a boiler house, 95 ft. by 94 ft., with overhead coal bunkers having a capacity of 2,000 tons, were built of reinforced concrete, the walls being 6 in. thick. In 1922 a further turbine house, 83 ft. by 67 ft., of similar construction, was built for a 10,000-K.W. set.

Swimming Baths.—In 1909 and 1912 swimming baths were erected at Madeley-street, the men's bath being 35 ft. by 90 ft., and the boys' bath 30 ft. by 84 ft. The tanks and galleries were of reinforced concrete faced with mosaic.

There were also a cattle and pig market, workshops for Tramway Department, blacksmith's shop, basement for filtration plant for swimming baths, and floor for open-air swimming baths, where reinforced concrete had been largely used.

After the war, owing to the high prices and the great difficulty of obtaining fireclay street gullies, the Corporation commenced making them of reinforced concrete. They were 14 in. by 14 in. by 2 ft. 7½ in. inside measurements, and the cost worked out at 25s. each, whereas a quotation for fireclay gullies was 56s. each. The output was two to three per day, which, of course, could be increased if desired by making more form boxes.

The Corporation also made fence posts, gate posts, landings for manholes, and landings for vaults in reinforced concrete, and curbing and channelling in ordinary concrete,

Hints on Concrete Construction.

In the course of some notes on the construction of reinforced concrete, he said the first consideration was to have a good, live foreman or clerk of works, who would conscientiously perform his duties and see that all the details of the work were carried out.

All steel should have an ultimate tensile strength of 28 to 33 tons per sq. in., and comply with the British Standard Specification for structural steel for bridges. Steel should not be oiled, tarred, or painted, but all loose scale or rust must be removed before the reinforcement was placed in position.

The most important and, generally speaking, the most difficult work in connection with the erection of reinforced concrete structures was the accurate placing of the steel, which must be fixed in exactly the position shown on the plans. Foremen or clerks of works must check all rods before any concrete was placed.

A difficulty generally met with was to support beam rods in such a manner that the cover at the bottom would be as shown on the plans. That was often done by packing up the steel from the shielding by means of blocks of wood of the requisite thickness, and withdrawing them as the concrete was placed. After the formwork had been stripped it was frequently found that packings had been left in by accident, which had to be cut out and the concrete patched up again. A very neat method of supporting rods from the bottom of the shielding was to use small pre-cast cubes of concrete, which could remain in the work without any disadvantage.

If pre-cast beams were to be used, the top side must be distinctly marked to avoid the risk of putting in beams upside down. Formwork must be substantially and accurately constructed, well fixed, and supported to take the weights it was required to carry. Long beams should be framed with a camber of about 1-350 span. Column boxes should be built up on three sides, and the fourth side should be gradually built up as the concrete was placed.

All formwork for beams should be held in position by means of wedges so that any movement could be taken up, and on completion the shielding could be removed without risk of jarring the concrete. The sides of beam boxes should be secured to the bottom in such a manner that they could be stripped without disturbing the bottom timber, and so allow the air to get to the concrete to assist the hardening before the beam was finally stripped. It should be remembered that the formwork was the most expensive part of the work and must be used over and over again.

Immediately before placing the concrete, the formwork should be carefully cleaned out, trued up, and coated with soft soap, form oil, whitewash, or some other suitable preparation to facilitate removal.

The aggregate might be of almost any hard, clean material, such as granite, shingle, stone, gravel, or broken brick, but for reinforced concrete work granite or shingle were the best. Concrete should always be proportioned so that the sand and cement were respectively in excess of the voids in the aggregate and sand. The percentage of voids in the aggregate was usually about 40 to 50, in sand about 35; 4–2–1 concrete would generally give the best mixture.

The aggregate should vary in size from ¼ to ¾ in., and the sand up to ¼ in., and 75 per cent. of the sand should pass through ⅛ in. square mesh.

The amount of water to be used in the mixing was a matter of great importance: the mixture should neither be too dry nor too wet, but should quake slightly when rammed. It was better to err on the side of a slight excess of water than to use a concrete which was too dry. The wet mixture would only yield about two-thirds of the combined volumes of the dry materials, as the sand and cement went to fill up the voids in the aggregate.

The cement should be slow setting, and comply with the specification of the British Engineering Standards Committee, and each new batch should be tested before use.

Concrete must be well mixed, and, if possible, a mixing machine used. It should be laid quickly in small quantities, and well rammed round all the rods and thoroughly consolidated.

Each section of concreting should, as far as possible, be done in one operation. When work was resumed upon any concrete that had set the face should be roughened, washed clean, and covered with a layer of cement mortar. The new concrete should then be rammed against the old, as hard as possible without injuring it.

Care must be taken to avoid disturbing the set of concrete until sufficient time had elapsed for the setting to take place; no load, such as walking over it or laying planks upon it, should be allowed.

The reinforcement rods must not be moved in ramming, and steel must not be fixed in the vicinity of new concrete where vibration of the steel might destroy the set of the concrete. Concrete must be kept moist and covered in hot weather, and protected against frost.

No hard and fast rule could be made for the time to be allowed before stripping the formwork, all depending upon the weather and the size of the work, but the period should be approximately 14 to 28 days. The time must be left to the judgment of the person in charge.

In many reinforced concrete works it was necessary that the walls should be waterproof. There were a few waterproofing compounds at present on the market that admirably served their purpose, but it had been shown by experiments carried out in America and in this country that many would cause a loss of strength. There was no doubt that carefully graded concrete with sufficient cement to fill the voids with an excess of 5 per cent. would give a perfectly impervious concrete under moderate heads.

[The discussion on this paper, together with Mr. Searles-Wood's paper, will be given next week.—Ed.]

HEALTH EXHIBITION.

The practical side of the Congress was enhanced in interest by a Health Exhibition at Wenlock Barracks, Anlaby-road, in which many of the appliances and methods discussed at the meetings were exhibited and demonstrated.

Some excellent examples of modern paint work were shown by the Keystone Varnish Co., Ltd., of 14, Scott-street, Hull; Plaster Paint, Ltd., of 17, Percy-street, London, W.C. 1; and Messrs. Blundell, Spence & Co., Ltd., of Beverley-road, Hull. A representative selection of "Rawlplugs" was exhibited by Messrs. Rawlplugs, Ltd., Cromwell-road, London, S.W.7, and the ease with which they can be fixed to hard walls and ceilings was demonstrated.

The Dominion Machinery Co., Ltd., of Halifax, showed in operation one of their latest type ball-bearing "Elliot" woodworking machines, for ripping, cross-cutting, boring, trenching, mitreing, tenoning, surfacing, &c.; this stand also exhibited the "Dominion" ball-bearing spindle moulder and the "Dominion" scroll saw and moulder.

The "Lewbart" automatic disinfector and deodoriser was shown on the stand of the Lewbart Manufacturing Co., Ltd., of 2 and 3, Norfolk-street, Strand, W.C. 2; this is a small instrument, 3½ in. diameter, 8 in. long, clipped on the flush pipe of the lavatory, without severing the pipe or using solder, making a water-tight joint by the means of a small rubber pad. A small square hole (⅛ in. square) is made in the pipe to allow the trigger to be inserted and a small hole (⅛ in. diameter) to take the discharge of the disinfectant. The action is automatic and fool-proof. The disinfectant enters the pan only after the flush has taken place. The mixture is not further diluted with the water in the pan, but merely floats on the top, and, therefore, forms a protective barrier. The containers hold sufficient disinfectant for 1,400 pulls of the chain.

Messrs. Sidney Flavel & Co., Ltd., of Leamington, exhibited an extensive range of their well-known heating and cooking apparatus for coal and gas; the gas cookers manufactured by this firm are all fitted with "Flavel" burners, which effect a considerable economy in gas consumption.

An interesting new invention was shown by Mr. A. B. Burleigh, of 69, The Mount, York, in the form of a double socket rest bend for the outgoing pipe from a water closet where the permanence and stability of interior joints is essential. In these days of high vibration from heavy motor traffic the importance of a safe conduit for sewage from the interior of a house to the exterior cannot be too strongly emphasised, and it is claimed that this rest bend is better than an ordinary bend (with its joint in the wall) surrounded and bedded in concrete. The wall is first built, and a cavity left, covered by a cement flag, so that no weight is transmitted on to the bend itself, but comes upon the solid lugs at either side; then, as soon as any slight settlement has taken place, the spigot pipe is brought forward to 2 in. within the outer face. The bend is then passed from the inside to the outside, the drain jointed up, and collared with cement on the outside of the wall. A 2-in. fall is allowed, and if the conditions are bad both ends of the spigot are Stanford jointed; this, however, is not necessary in the ordinary way.

The awards of the jury appointed by the Royal Sanitary Institute included the following:

Silver Medals.—Blundell, Spence & Co., Ltd., Hull: Paints, varnishes, and dry colours. Dominion Machinery Co., Ltd., Halifax: "Elliot" woodworker. Sidney Flavel & Co., Ltd., Leamington: "Leamington" 1923 gas cooker.

Bronze Medals.—The Keystone Varnish Co., Ltd., Hull: "Keystona." Meldrums, Ltd., Timperley, Manchester: "Meldrums" steel-cased refuse destructors for hospital use, and "Sack" type portable steam disinfector. The Rawlplug Co., Ltd., London, S.W. 7: Recess screws and outfits, and "Rawlplug" aluminium fittings and bathroom sets.

THE BUILDING TRADE.

ESTIMATING FOR SMALL BUILDERS—IV.

By J. H. BARNS, F.I.O.B.

ONE of the difficulties in dealing with the cost of manufacture of joinery is the great range of qualities of material and differing standards of labour or degrees of excellence in finish. It is possible to purchase a deal door of average size for 15s., whilst a similar deal door, but of superior quality wood and workmanship, would cost 45s. or over. In both cases all you have is a door. If your customer will be satisfied with the 15s. article, it is useless to quote in keen competition work for a door costing 45s. In round figures, 15s. per door would equal 5s. per ft. cube labour and materials for the finished article, equal to about the cost of materials only for third quality deal of some good brand. In other words, the small builder can buy cheap ready-made joinery at lower prices than he can purchase good materials only.

Exactly the same can be said of a number of articles used in houses. The small builder is not always able to avail himself of the low prices for ready-made joinery, as sometimes the article required has to be made to some special or awkward size which cannot be obtained from stock. He must then either start his general utility carpenter upon the job or arrange for its manufacture by some firm of joinery specialists who cannot carry out small orders for special work at keen cut rates.

With regard to the degrees of excellence in finish, what often happens is that consciously or unconsciously a builder sets up for himself a standard and endeavours to produce either the 15s. or the 45s. door before mentioned, or some grade in between, and the temptation when competition is unduly severe is to reduce the amount of labour expended on the door and instead of supplying the 45s. one he may have wished to provide, he produces an article at 35s.

The methods of manufacture of joinery have so completely changed with the introduction of machinery that many old "Constants of Labour" relating to building work in general and joinery in particular, do not apply. Many of them were based on hand sawing of timber, when top sawyers were a reality, and not mainly a figure of speech. When planing and glass papering had to be done by hand, it was dispensed with where not actually required. New men and new methods are to-day producing an article very similar in appearance to those supplied a hundred years ago. Then why not standardise sizes of ordinary joinery to reduce costs? This would be an interesting conundrum.

As can be seen from the tabular list of prices of deal given in the previous article, the cost of wood 9 in. wide is much greater than that 8 in. wide, it is therefore cheaper to use the latter size where possible. Say use 8 in. rails for doors in lieu of 9 in. Ready-made joinery is usually produced from batten sizes. For window boards, shelves, jamb linings, &c., batten sizes can often be used even when of sufficient width to need joining up.

Example :—

— Squares sup. 1 in. wrought yellow batten flooring, laid with splayed heading joints and cleaning off at completion.

1 square 1" imported flooring ..	£1	10	0
Waste, say 10 per cent.		3	0
Nails, 5 lbs.		1	8
Labour		6	6
	£2	1	2
Add 15 per cent. profit and on-costs..		6	3
	£2	7	5

The cost of flooring boards will depend upon the quality and width of the wood. The prices are given per square of 100 ft. super. Before the war the number of feet per square varied with the width of the flooring, which is now altered, and all sizes are sold per 100 ft. super.

The following will give some idea of the variation in price of flooring :—

	Per Square. 1"×7"..1"×6"..1"×5½"..1"×5"
1st quality of some good brand ..	29/– .. 28/– .. 26/6 .. 26/–
2nd do. do.	27/– .. 26/– .. 25/– .. 24/6
3rd do. do.	25/6 .. 24/6 .. 24/6 .. 23/6

The item of 10 per cent. included for waste is the approximate loss consequent upon planing and cutting to lengths.

Before the war the piecework price for laying 1 in. flooring varied from 1s. 9d. to 12s. 6d. per square. Laying flooring is rather an uncomfortable job and the cost of cleaning off (by planing) the joints varies considerably.

Example :—

— Squares sup. 1 in. wrought yellow batten tongued and grooved flooring laid with splayed heading joints and cleaning off at completion.

1 square 1" imported T. & G. flooring	£1	10	0
Waste, say 15 per cent.		4	6
Nails		1	8
Labour		7	6
	£2	3	8
Add 15 per cent. profit and on-costs		6	7
Cost per square	£2	10	3

The item for waste includes an amount for loss in measurement due to tonguing and grooving the boards.

The cost of tongued and grooved flooring boards is about the same as square edge flooring.

YELLOW DEAL TONGUED, GROOVED AND BEADED MATCHING.

Quality.	Per Square. 1"×7"..1"×6"..1"×5"
1st quality of some good mark ..	30/– .. 28/6 .. 27/6
2nd quality do.	28/– .. 27/– .. 26/–
3rd quality do.	26/– .. 26/– .. 25/–
	¾"×7"..¾"×6"..¾"×5"
1st quality of some good mark ..	24/– .. 22/– .. 20/–
2nd quality do.	22/– .. 20/6 .. 18/6
	⅝"×7"..⅝"×6"..⅝"×5"
1st quality as before..	17/6 .. 17/3 .. 17/–
2nd quality do.	16/3 .. 16/– .. 15/9
	½"×7"..½"×6"..½"×5"
1st quality as before..	15/– .. 14/9 .. 14/9
2nd quality do.	14/– .. 14/– .. 14/–

The above prices are for goods in docks to which must be added cost of delivery, probably 1s. per square.

T. G. and V. jointed matching is usually the same price as T. G. and B. White matching is usually cheaper than yellow.

Example :—

— Squares ¾ in. yellow tongued, grooved and beaded matching in batten widths and fixing to studding.

1 square matching, say	£1	5	0
Waste, 15 per cent.		3	9
Nails		1	0
Labour, say		5	6
	£1	15	3
Add profit and on-costs, 15 per cent.		5	3
Cost per square	£2	0	6

It is not advisable to use matchboarding of less than ¾ in. nominal thickness, as after about 3-16 in. is allowed for planing and preparation the board is too thin to handle without damaging the tongues, &c.

The remarks in Part III relating to price and quality of deals and planed boards, also apply to rates just quoted for planed goods.

Example :—

— Ft. run 7 in. by 1 in. moulded skirting and grounds.

1 ft. run 7"×1" imported moulded skirting			5d.
1' 3"—2"×½" deal ground			1d.
Labour, nails, &c.			4½d.
			10½d.
Add profit and on-costs			1½d.
			1s. 0d.

The length of "ground" given should be sufficient for the horizontal ground and "soldier." If a good job is required, the skirting must be carefully glass-papered or otherwise smoothed over, which would add considerably to the cost. Mitres are usually priced at some proportion of the cost per ft. of skirting. For an elaborate kind it may be worth as much as a foot run of skirting, and for a plainer type less, say quarter or half of a foot run.

Example :—

— Ft. super. 2 in. deal square framed doors.

As an illustration of the method of analysing cost of a 3 ft. by 7 ft. door will be taken. Space prevents the material being set out in detail. It would need :—

	£	s.	d.
13 ft. sup. 2" deal, at 6/– ft. cub. ..		13	0
11 ft. sup. ¾" panels, at 4d. ft. sup. ..		3	8
Waste, 10 per cent.		1	8
Glue, glasspaper			3
Labour (21 ft. at 1/6)	1	11	6
	£2	10	1
Add profit and on-costs		7	6
Total cost of door	£2	17	7

Cost per ft. super, say 2s. 9d.

For further considerations of cost, see remarks above.

It is worth about 15 per cent. of labour cost for taking size and setting out a door. If there are many doors of the same size and description the cost of setting out can be spread over the whole quantity, otherwise it should be specially allowed for in the cost. It is hardly possible to analyse cost of labour involved in manufacture of door as the method of production and the amount of machine work may vary with each firm. If the door has to be prepared to receive a mortice lock it is cheaper to do this during manufacture. A hole can be bored near the end of the middle rail so that the end grain of the wood can be easily mortised. (See Fig. 1.)

The labour of hanging door is included in cost of door and not added to the cost of fixing hinges which are usually billed in the "ironmonger." Prices for other kinds of doors can be prepared

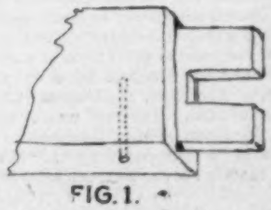


FIG. 1.

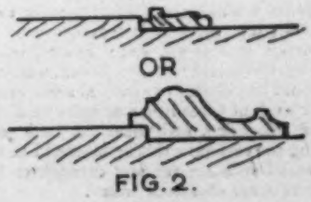


FIG. 2.

on similar lines. It would be worth about 2d. per ft. super per side additional if the door were moulded or bead butt. It is impossible to generalise on the subject as the kind and size of mouldings differ and panels may be of a greater thickness.

A bolection moulded door is one on which the panel moulding projects in advance of the framing, and may be of two kinds. (See Fig. 2.)

Price will depend on the size and description of moulding. Where joinery is required to finish the specified sizes about ¼ in. should be added for each wrot face. Therefore a door specified to finish 2 in. must come out of at least 2¼ in. deal, and as this size is not imported a larger size must be used and the allowance for waste consequently increased.

Example :—

— Ft. run 4 in. by 2 in. wrot deal rebated and beaded door frame.

This to-day is worth about 15s. per ft. cube, and this by the inch by inch method before mentioned would equal 1s. 3d. ft. run. Labour cost will depend upon whether the frame is prepared in a machine working all four sides at once or by some more costly and more exact method. Other sizes can be worked out on the same basis.

Example :—

— Ft. run 3 in. by 1 in. deal moulded architrave.

1 ft. run imported moulding		1½d.
Waste 5 per cent., and nails ..	say	½d.
Labour		4d.
		5½d.
Add profit and on-costs		¾d.
		6¼d.

Limitations of space will prevent giving examples of prices of different kinds of mouldings. In a large bill of quantities a few dozen sizes of moulding may be stated. The easiest way of pricing them is to rate them out on the basis of some price per ft. cube. The small sizes will cost more than the larger ones. Some method as follows can be used :—

Mouldings up to 3" square end section per ft. cub.	24/-
Mouldings up to 6" square end section per ft. cub.	20/-
Mouldings up to 9" square end section per ft cub...	18/-

	s.	d.
Thus 3"×1" moulding would cost ..		6
„ 6"×1" „ „ „ ..		10
„ 9"×1" „ „ „ ..	1	1½

Mitres as for skirting.

A builder in a small way of business cannot be expected to be sufficiently in touch with prices to be able to go into the small differences which would be necessary in pricing a large bill. In small jobs the cost of labour is very uncertain, as time may have to be added going to and from the job in addition to ordinary costs. As a further instance, the cost of transport for one door if delivered separately is much more than one-twelfth the cost of transporting twelve doors. The cost of the general operations of a small job is about the same as those of works of twice the magnitude. Therefore, meticulous differences in rates are absurd. The best way is to adopt or arrive at some simple method for fixing covering rates for unimportant jobs. For larger works the matter should be more carefully gone into.

From the consideration of a large number of joinery prices it will be seen that the work would fall naturally into three or four categories. The *first*, flooring, matchings, &c.; *second*, mouldings; *third*, doors and frames; *fourth*, windows; and it would be possible to arrive at some general figure for each of these items so as to be able to remember the price, and when the time comes for pricing the estimate this figure could be used with a small addition for any divergence from the hypothetical standard taken.

NOTES ON CONCRETE.

THE EXPANSION AND CONTRACTION OF CONCRETE.

THE cracking that sometimes occurs on concrete or cement plaster surfaces and in pipe-joints is due to shrinkage, although it is frequently attributed erroneously to expansion of the cement. In order to make a workable paste, either of neat cement or cement mortar or cement concrete, it is necessary to add more water than can be taken up by the cement during setting, and consequently when the mortar or concrete becomes dry some or all of the excess water which was essential for making a paste has been lost by evaporation. In common with many other materials this drying out and loss of water from concrete are accompanied by contraction, and when the material has not developed a great strength and is not free to move as a whole, the contraction leads to cracking.

Consider the case of the wearing surface of a concrete floor consisting of, say, two and a half parts of granite chippings to one part of cement, which has been laid on a foundation of leaner concrete, probably a mixture of one part cement, two parts sand, and four parts broken stone. The upper surface, being rich in cement, will require more water for mixing than the lower layer, and will consequently lose more water on drying out. Moreover, the upper surface, being exposed to the air, will dry out more rapidly than the protected lower surface. The net result is that the upper layer will shrink more than the lower layer of concrete, and as the two layers under proper conditions will adhere, the upper layer becomes stretched. If the shrinkage takes place within a day or two of laying the concrete it is probable that cracks will occur on the surface.

Means of prevention are: (1) to use no more water in the concrete than is necessary, so that the loss of water on drying and consequent contraction are reduced to a minimum; (2) to protect the concrete surface from rapid drying by keeping it damp for at least fourteen days, so that the shrinkage does not take place until the concrete is strong enough to resist the tendency to crack.

The causes of cracking and the means of prevention are similar in the case of cement plastering, except that in this case there is the additional danger of the brickwork (or other material to which the plaster is applied) being porous, and unless this porosity is corrected by thorough and complete soaking with water, some of the water in the plaster will be absorbed by the brickwork, and the tendency to crack will be greater.

In the case of pipe jointing, if neat cement be used the risk of cracking through contraction is considerable, because of the greater proportion of water that disappears when neat cement is used. But when care is taken to prevent too rapid drying, neat cement can be used for pipe jointing with perfect success. There is, however, no need to use neat cement for this work, because a mixture of one part of cement to one part of clean, fine sand will make a watertight joint at less expense and with less tendency to crack, because the contraction will be less than with neat cement. The covering of each joint during setting is, however, always desirable.

If the ends of the pipes to be jointed are not perfectly glazed they will probably be porous, and should be soaked with water before jointing is done. Referring to the mistaken idea, sometimes expressed when a range of pipes fails under the pressure test, that the cause is the unsoundness or expansion of the cement, it should hardly need pointing out that an expansive cement would burst the collars of the pipes, whereas what happens in 99 out of 100 pipe-joint failures is the leakage of water through cracks in the cement jointing.

In concrete work, where a porous aggregate such as broken brick is used, it is important to soak this thoroughly with water, otherwise contraction cracks are liable to occur, because water is absorbed from the setting cement by the porous aggregate.

The measure of contraction that occurs after cement has set has been accurately investigated, and when a bar of neat cement is kept in the dry atmosphere of a warm room it may contract up to about 0.2 per cent. in length, such contraction usually occurring in the first week and not increasing thereafter. A bar made of mortar or concrete will contract under the same conditions up to about 0.06 per cent., or at the rate of ¾ in. in a length of 100 ft. It will be obvious that a span of 100 ft. of concrete cannot contract three-quarters of an inch without cracking, and this is why concrete roads are laid with joints at intervals. By this device the unsightly, irregular cracks that would occur in a large concrete surface are prevented, and in their place are straight and regularly spaced joints.

On the other hand, if a concrete is kept damp immediately after setting, or if a dried concrete of any age is wetted, there is a slight expansion, amounting to about 0.01 per cent., or ⅛ in. in 100 ft.

It is possible for concrete and mortar to expand to a considerable degree, but only under two conditions, viz., when an unsound cement is used, or when an unsuitable aggregate is used. Unsound cements of British manufacture are rare nowadays, and the risk from this condition is remote, especially where a guarantee of compliance with the British Standard Specification is obtained. The unsuitable concrete aggregates that may give rise to expansion are those containing unburnt or partly consumed coal, a high proportion of sulphur in a certain chemical state and a high proportion of lime. A concrete floor made with an aggregate, such as boiler ashes containing coal, can expand to such an extent as to force out the walls between which the floor is laid, and there have been many examples of this occurring. The precise reason why coal should behave in this manner has not yet been satisfactorily explained, and it is particularly unfortunate that a cheap material like boiler ashes should be practically useless as a concrete aggregate on this account. An aggregate with a high proportion of sulphur is occasionally met with in the form of broken bricks where the bricks have been made from clay containing pyrites.

OBITUARY.

Sir Henry Holloway.

We regret to announce that Sir Henry Holloway, J.P., governing director of the well-known firm of builders and contractors, Holloway Bros. (London), Ltd., died at his London house, Draxmont, Wimbledon Hill, on Monday.

Born on August 5, 1857, the fourth son of the late Thomas Holloway, of Lavington, he founded the business which bears the family name in conjunction with his brother, the late Thomas Holloway, J.P., in 1882. Sir Henry Holloway—he was knighted in 1917—was also a member of the boards of several other prominent companies, and was a past President of the Institute of Builders and of the London Master Builders' Association.

Housing Subsidy.

A subsidy of £100 per house is being granted by Rhondda Council to encourage building by private local enterprise, on condition that it will be applied to reduce cost of the house, to enable it to be sold or let economically.

The Lyceum Theatre.

Messrs. Hooper & Hooper are cleaning and redecorating the auditorium of the Lyceum Theatre. The suspended and other scaffolding has been erected by Messrs. Palmer's Travelling Cradle & Scaffolding Co., Ltd., and the paint used is Messrs. Berger's "Matone."

BUILDING EDUCATION

A correspondent writes:—

It is a regrettable fact that organisation in the building trades, so far as it applies to the instruction and training of lads and apprentices, has not been developed to the extent that it has in some other industries, notably, that of engineering. Whatever may have been the underlying reasons for this state of affairs, the industry as a whole is awaking to the fact that if our future builders are to carry out their work with efficiency and economy, and to uphold the worthy traditions of the past, more attention will have to be given to thorough courses of technical instruction.

For various reasons it is becoming increasingly difficult to obtain such instruction in the workshop, and technical institutions throughout the country are having to deal with the problem to an increasing degree. In order to further this work over 60 teachers of building subjects, from all parts of the country, have recently been in attendance at a course in London, organised by the Board of Education, for the dual purpose of taking "refresher" courses of lectures in certain subjects by well-known specialists and of conferring together on matters affecting their teaching work. The course, which is the fifth of its kind and is held annually, has extended over a fortnight, and its benefits to the teachers and through them, it is hoped, to a much wider circle can hardly be over-estimated. The courses of lectures have comprised "The Design of Buildings," by Mr. T. P. Bennett, F.R.I.B.A.; "Mechanics and Structures," by Mr. F. E. Drury, M.I.Struct.E., F.I.S.E.; and "General Building Science and Laboratory Work," by Mr. A. Everett, B.Sc. (Hons. Lond.). Separate lectures were also given by Sir Frank Baines, C.B.E., M.V.O., on the "Restoration of the Roof of Westminster Hall"; by Mr. C. G. Dobson, P.A.S.I., on "Building Accountancy"; by Dr. R. E. Stradling, M.C., Ph.D., A.M.Inst.C.E., on "Materials of Construction"; and by Mr. A. S. Barnes, H.M.I., on "The Evolution of Hand Tools." In addition there have been visits to places of technical interest such as the new buildings in Oxford-street for Messrs. Selfridge and Messrs. Peter Robinson, the research laboratories of the Building Research Board at Acton, the Royal Institute of British Architects, the Architectural Association Schools, and various museums.

One of the most important parts of the course has been the holding of two official conferences; one at the invitation of the Institute of Builders, to consider the recently devised scheme of examinations for admission to the Institute, and the other at the invitation of the Surveyors' Institution, to discuss the new standard form of quantities for building work. In both cases there is reason to hope that the frank interchange of views which took place will prove of permanent benefit to the industry as a whole, particularly as the teachers present represented the provinces to an extent which is usually difficult to obtain in London.

There can be no doubt as to the benefit of the course to teachers themselves; particularly to those who "plough a lonely furrow" in remote and thinly-populated districts. The sense of comradeship and solidarity and the broadening of views which resulted will be a help and inspiration to all who took part.

To Mr. Hugh Davies, H.M.I., who organised the course, to his colleague, Mr. J. L. Manson, H.M.I., who assisted him, and to the authorities of the Westminster Training College, who provided such excellent facilities for the course, the thanks of all concerned are due. It is to be hoped that the work of this course will, if possible, be extended in the future and that all who are interested in the provision of technical education in the building industry will appreciate the value of the work done.

Five firms of solicitors were concerned in the transfer of a piece of land, costing £135, at Ivinghoe (Bucks).

ENGLISH PLASTIC DECORATION.

At the Department of Architecture, Surveying and Building, Northern Polytechnic Institute, recently, Mr. E. F. Jackson, of Messrs. G. Jackson & Sons, Ltd., Rathbone-place, London, gave a lecture on "English Plastic Decoration."

Dealing with the materials used in the past and at the present time, he said he would first of all deal with the stucco duro of the Italians (carbonate of lime) which was selected limestone, thoroughly well burnt and slaked for many years, well thumped together, beaten and chopped, and so toughened that it became quite flexible and very malleable; it was mixed with very finely ground Carrara marble dust, fine sand and various materials for fattening the stucco, for retarding the setting and regulating shrinkage and cracking, such as rye, dough, gluten of rice, plaster of Paris (sulphate of lime), fig juice, sugar or molasses. He now used dextrine, which was a sugary material to harden lime or plaster of Paris. To come to modern times, the Italians were the principal workers in stucco duro. A band of artists were trained by Raphael and carried out much stucco work in Italy and France, which could be seen to-day in the Vatican at Rome, many of the Italian palaces, and in many of the old palaces, châteaux and houses in France.

Almost the first stucco duro work in England was executed at Nonsuch Palace, and then at Longleat and Hardwicke Hall, by an English plasterer named Charles Williams, who had worked under the Italians, but owing to the difficulty of obtaining the marble dust and other ingredients, the use of stucco duro died out and the use of parge plaster became general in England in the late sixteenth and early seventeenth century. This was composed of very old lime, sharp sand, powdered tiles, cow-dung, and ox-hair. It was very tenacious, tough and weatherproof, and with it the early timber-frame buildings of England were covered externally and internally.

The plasterers' work in England gradually developed, ceilings and friezes and cornices became richer and heavier in design, and the simple plain moulded ceiling rib widened into an enriched band with modelling between the containing mouldings. Those mouldings were run on the ceiling in stucco and later on in plaster of Paris, and the ornament was bedded in between the mouldings, shields, cartouches, sprays of flowers, &c., being inserted in the panels so formed by these bands. Then the ceilings and friezes of many well-known country houses were covered all over with a modelled entwining, a spiral growth of stem work of the vine, rose, laurel, and other forms of foliage, or else with grotesque figures, shields, flowers, or heraldic emblems. During the Elizabethan and Jacobean period the character of the modelled plaster work improved.

They now came to the time, after visits to Italy by Inigo Jones and visits to France by Christopher Wren, when plaster decoration became far more elaborate and much bolder in detail and altogether different in character. A great deal of work at that period was done by Italians assisted by English plasterers, and the use of Italian stucco duro was revived. Cornices were heavily moulded with leaf, and egg and tongue mouldings and modillion blocks. Friezes were executed with swags or laurel or oak leaves, and the ceilings were covered with wide bands and mouldings, forming ovals, circles, or square and oblong panels. Those bands were ornamented with elaborate fruits and flowers and leaves with entwining stems.

The use of the old stucco duro did not long survive, as it was found difficult and expensive to get the proper materials, and gradually ordinary stucco, viz., lime and hair and sand and plaster of Paris were again used, although the result was not so good, as it was impossible to obtain the same effect in this softer and less plastic material, or the same degree of hardness and durability and sharpness of edge on the leaf or flowers and thinness of substance which stucco duro was capable of taking and retaining. Following that elaborate phase of ornament a severer style of plaster work, but based on the same form of ornament, became general, fostered by Vanbrugh, Archer, Chambers, Hawksmore, Kent, Gibbs, &c. That work was more architectural in design and the ornamental work was not so free or undercut.

After referring to the period when the French work of the time of Louis XIV was badly copied in England, the lecturer said, stucco work had now fallen to its lowest ebb and practically came to an end, giving way to the rising school of the brothers Adam. That work was very delicate in design and was based on the antique. The material used by the brothers Adam for their ceilings, friezes and wall ornaments was a mixture of gypsum and fibre with a glutinous compound known as liardets preparation. Much work based on the antique and the Adam school was done in the following years by or under the direction of Paine, Richardson, Morris, Taylor and Holland and others; the details of the ornaments were perhaps not so delicate or refined, but much of the decorative work on the ceilings and panel mouldings was very good, and was being largely used and copied in the scheme of decoration at the present time. During the early Victorian period plaster work was very bad and consisted of nondescript details, mixed up with Greek ornament in the cornices, panel mouldings and ceilings. Plaster of Paris was much employed for casting these ornaments, but after the middle of the nineteenth century, the quality of the work commenced to improve and towards the end of the nineteenth century was again far more artistic, good work being done by many well-known plaster firms. That revival was principally owing to the introduction of fibrous plaster and gelatine moulds into England by the firm he was connected with.

The lecture was followed by a brief discussion. Mr. T. P. Bennett, F.R.I.B.A., thanked the lecturer.

The lecture was illustrated by some excellent cinematograph views of the manufacture of fibrous plaster, the films being taken in Mr. Jackson's works at Rathbone-place.

The Prince of Wales's Visit to Stone Quarries.

On the occasion of the recent tour of the West Country by the Prince of Wales, His Royal Highness visited the famous Ham Hill Stone Quarries in Somerset. Some typical examples of the finished product of the hill were displayed, noteworthy exhibits being some stonework for the new buildings of King's School, Sherborne, where extensions are being made to the school under the direction of the architect, Sir Reginald Blomfield, R.A. The Ham Hill stone is an oolite which derives its beautiful yellow colour from the iron it contains. This stone has been used in the building of practically all West country churches and mansions. At the entrance to the quarry the Prince was received by Colonel C. J. Trask, T.D., a director of the Ham Hill and Doulting Stone Co., who was presented to the Prince, as also was Mr. W. Trask (chairman of the directors) and Colonel F. N. Quantock-Shuldham. The Prince passed between machinery in motion and great blocks of stone, either finished or in the process of completion. His Royal Highness was escorted to a spot overlooking the quarry, which is of considerable depth. The Prince watched the men busy at work beneath him, while away on the far side a great crane was hoisting a huge block of stone to the surface. The Prince was greatly interested in all he saw and in the description which Colonel Trask gave him of the principal features of the stone. His Royal Highness asked many questions of those accompanying him—how long the particular quarry below him had been working, and the nature of the work done by the men.

THE RENT ACT: STATUTORY TENANTS.

The case Felce *v.* Hill, which we noted in our issue for May 11 last, has been carried to the Court of Appeal, where the decision of the Court below has been affirmed. It raises a point we have frequently drawn attention to—the position of landlord and tenant under the Rent Act where the tenant holds over as a statutory tenant and the landlord continues to receive rent. The defendant in this case had been a tenant of the plaintiff under a three-years' agreement, which ended March 25, 1918. At the expiration of this term nothing had been said by either party, and the tenant remained in possession, paying the rent as before. On July 12, 1920, however, the landlord served upon her a notice of increase of rent, and this increase was duly paid. But on June 12, 1921, the landlord served a notice of further increase and as the tenant did not pay the first quarter's rent as increased, the landlord brought this action to recover it. In the action the tenant set up the defence that, after the expiration of the original term, she had become a tenant from year to year, and was entitled to six months' notice to determine this yearly tenancy, and, as no such notice had been given, she claimed to set off the amounts she had paid as increased rent since July 12, 1920. The plaintiff contended she was a statutory tenant under the Rent Act.

Now, apart from the Rent Act, if a tenant at the expiration of a term holds on with the landlord's consent, tacit or expressed, he holds on as a yearly tenant, and the inference may be drawn from the conduct of the parties that such a new agreement has been entered into, but the Court of Appeal held that the operation of the Rent Act prevented that inference from being drawn, for the tenant at the expiration of the original term became a statutory tenant, and was bound to pay the rent and could not be given notice. Therefore at the expiration of the term of three years she became a tenant on sufferance, or at most at will, and the landlord but for the Rent Act would have been entitled to obtain possession without giving any notice to quit. The judgment given for the plaintiffs in the County Court and Divisional Court was, therefore, affirmed.

The case is at present shortly reported as a head-note, and we notice the Court held that really the point was covered by the authority of Shuter *v.* Hersh (1922 1 K.B. 438; *The Builder*, July 28, 1922), and Newell *v.* Crayford Cottage Society (1922 1 K.B. 656; *The Builder*, April 28, 1922). As regards this latter case we shall have to see how the Court dealt with it when the case is fully reported, for, apart from dicta in the case, the decision was that in the case of a weekly tenancy an increase can only be demanded after notice to quit has been given, but Shuter *v.* Hersh decided that the receipt of rent from a statutory tenant does not waive a notice to quit or create a new tenancy.

So recently as July 20 we drew attention to the fact that Section 16 subsection (3) of the Act, which enacts that acceptance of rent by the landlord for a period not exceeding three months from the expiration of the notice to quit shall not be deemed to prejudice any right to possession, had not been applied in Shuter *v.* Hersh or any subsequent case, and it appears not to have been dealt with by the Court of Appeal in this case so far as the report at present shows. As we have explained before, this subsection was passed when the law was different from what it has since been decided to be, for at the time it was recommended by the Rent Commission it was then the law that receipt of rent even from a statutory tenant created a waiver (see Hartell *v.* Blackler, *The Builder*, July 20, 1920), but in the following year it was decided in Davies *v.* Bristow (*The Builder*, August 26, 1921) that receipt of rent from a statutory tenant could not be deemed to create a waiver and, since this latter decision, the subsection, instead of assisting landlords, has tended to cut down the effect of the latter decision and created difficulty.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Bricklayers' Plasterers Labourers.
Aberdare	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Accrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Altrincham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ashton-under-Lyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barnsley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barrow-in-Furness	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bath	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bedford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Birkenhead	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Birmingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bishop Auckland	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Blackburn	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Blackpool	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bolton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bournemouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bradford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bridgwater	1/3	1/3	1/3	1/3	1/3	1/3	1/3	0/11½
Brighton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bristol	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Burnley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Burton-on-Trent	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bury	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cambridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Cardiff	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chatham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Chelmsford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Cheltenham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Chester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chesterfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Colchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Coventry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Crewe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Darlington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Derby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Doncaster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dudley	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Durham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
E. Glam. (Mon. Vall.)	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Eastbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Exeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Folkestone	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Gloucester	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Grantham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grays	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2½
Grimsby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Great Yarmouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Guildford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Halifax	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Harrogate	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hartlepools	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hastings	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Hereford	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Huddersfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hull	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ipswich	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Lancaster	1/6	1/6	1/6	1/6	1/6	1/3	1/6	1/1½
Leamington Spa	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Leeds	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leicester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Lichfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Lincoln	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Liverpool	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Llanelly	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
London	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2½
Loughborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Luton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Maidstone	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Manchester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Mansfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Merthyr Tydfil	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Middlesbrough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newcastle-on-Tyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newport, Mon.	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Northampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Norwich	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Nottingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oakham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Oldham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oxford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Plymouth	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Pontypridd	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Portsmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Preston	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Reading	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Rochdale	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Rochester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Rugby	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
St. Albans	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
St. Helen's	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Scarborough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sheffield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Shrewsbury	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southend-on-Sea	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
South Shields	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stockport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stockton-on-Tees	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stoke-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stroud	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3	0/11½
Sunderland	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swansea	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swindon	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Taunton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Torquay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Tunbridge Wells	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wakefield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Walsall	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Warrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
West Bromwich	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wigan	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Windsor	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Wolverhampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Worcester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
York	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½

(For rates of wages in the Building Trade in Scotland, see page 227.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING

AUGUST 11.—**Barnstaple.**—CATTLE RING.—For erection of cattle ring in market, for the T.C. Borough Surveyor, Barnstaple.

AUGUST 11.—**Cilfynydd.**—PAINTING.—For painting and decorating Bethel C.M. Chapel, Cilfynydd, near Pontypridd. Mr. Thomas Davies, Tea Caddy, Cilfynydd.

AUGUST 11.—**Hayes, Middlesex.**—HOUSES AND SEWERS.—Erection of 50 houses, with sewers, at Hayes, Middlesex, for the Great Western (London) Garden Village Society, Ltd., Hayes Estate. Mr. T. Alwyn Lloyd, 6, Cathedral-road, Cardiff. Deposit £3 3s.

AUGUST 11.—**Horwich.**—MARKET ERECTIONS.—Erection of stalls, sheds, &c., for the Public Market of the U.D.C. Surveyor, Public Hall, Horwich.

AUGUST 11.—**Hull.**—Construction and fixing of new tidal gates, at the main drain outfall, Lime-street, Hull. Particulars from Engineer's Office, 8, Hengate, Beverley, Yorkshire.

AUGUST 11.—**Pudsey.**—VARIOUS WORKS.—For reconstruction of conveniences and improvements to playground at Greenside School, for the T.C. Messrs. Nelson & Birkinshaw, architects, 15, Park-row, Leeds.

AUGUST 13.—**Dartford.**—ENGINE HOUSE, &C.—Construction of an engine house, cottage, road and bridge, drainage, and other contingent works at Eynsford, Dartford, for the Metropolitan Water Board. Mr. Henry E. Stilgoe, Chief Engineer, 173, Rosebery-avenue, E.C. 1. Deposit £5.

AUGUST 13.—**Glasgow.**—PAINTING.—For the painter work at the Fruit Market, Candleriggs, Bell-street and Albion-street, for the T.C. Office of Public Works, 64, Cochrane-street, Glasgow.

AUGUST 13.—**Hereford.**—DWELLING HOUSES.—Erection and completion of dwelling houses (20, 24, or 28), on the Portfields Estate, Hereford, for the Housing Committee of the Corporation, City of Hereford, proposed housing scheme. Mr. H. E. Bettington, Secretary, The Hereford Associated Architects, Ltd., Palace Chambers, Hereford. Deposit £2 2s.

AUGUST 13.—**Keighley.**—MASONS' WORK.—For masons' work required in connection with erection of war memorial. Borough Engineer, Town Hall, Bingley.

AUGUST 14.—**Bangor.**—HOUSES.—Erection of eight houses on the Deanfield Estate, for the T.C. City Surveyor, Bangor.

AUGUST 14.—**Clayton.**—PAINTING.—(1) Painting 28 houses, Central Housing Site, Clayton; and (2) 18 houses, Clayton Heights Housing Site, for the T.C. Mr. James Wyld, Surveyor, Council Office, Clayton, near Bradford.

AUGUST 14.—**Dorchester.**—ADDITIONS.—For additions, alterations, &c., at the Dorset County Hospital, Dorchester. Mr. F. T. Maltby, architect, Dorchester.

AUGUST 14.—**Glasgow.**—SHOPS.—Erection of three single and four double shops at Drumoyne, for the T.C. Mr. J. Lindsay, Town Clerk, City Chambers, Glasgow.

AUGUST 14.—**Irlam.**—HOUSES.—Erection of 24 houses for the U.D.C. Mr. W. H. Gamble, Surveyor, Council Office, Irlam. Deposit £5 5s.

AUGUST 14.—**Llanerfyl.**—CHAPEL.—Erection of chapel and shoolroom. Mr. R. A. Ford, architect, Llandiloes.

AUGUST 14.—**Newbridge.**—PAINTING.—For painting steel girder bridge over the River Dee, for the Denbighshire C.C. Mr. E. W. Jones, County Offices, Denbigh.

AUGUST 14.—**Poplar.**—OVEN.—Supply and erection of brick-built bakers' oven at Hospital of Poplar and Stepney Sick Asylum Board. Mr. Sydney G. Wright, Clerk, St. Andrew's Hospital, Devon's-road, Bow, E. 3.

AUGUST 14.—**Wallasey.**—HOUSES.—Erection of 30 houses on the Belvidere-road Housing Site, for the T.C. Mr. W. H. Travers, Borough Engineer, Town Hall, Wallasey. Deposit £2 2s.

AUGUST 15.—**Barnstaple.**—PAINTING.—For painting at the Barnstaple and North Devon Dispensary. Mr. J. H. L. Brewer, Hon. Sec., Barnstaple.

AUGUST 15.—**Birmingham.**—EXTENSIONS.—For extensions to the Union Offices, Edmund-street, for the Board of Guardians. Mr. James Curtis, Clerk, Union Offices, Edmund-street, Birmingham. Deposit £5.

AUGUST 15.—**Grampound-road.**—HOUSE.—Erection of residence. Mr. A. J. Cornelius, architect, Truro.

AUGUST 15.—**Houghton-le-Spring.**—HOUSES.—Erection of six aged miners' homes at Houghton-le-Spring. Mr. J. A. Emery, Hetton-road, Houghton-le-Spring.

AUGUST 15.—**Leeds.**—POINTING.—For pointing portions of the stonework at the Town Hall. Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

AUGUST 15.—**London, E.**—FLATS.—Erection of a block of flats in Pritchard's-road, Shoreditch, London, for the Commissioners of H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W. 1. Deposit £1 1s. (payable to the Secretary).

AUGUST 15.—**Pontardawe.**—REPAIRS.—Repair of house and buildings at Cefn Celfi, near Rhos, Clydebyll, Pontardawe, for the C.C. Agricultural Committee. Mr. T. Mansel Franklen, Clerk, Glamorgan County Hall, Cardiff.

AUGUST 16.—**Bingley.**—RENOVATIONS.—For internal renovations at Bingley Training College: (*a*) Hostel "Ascham"; (*b*) Hostel "Alcuin"; (*c*) College Block. Education Department, County Hall, Wakefield.

AUGUST 16.—**Eston.**—GREENHOUSE.—Erection of greenhouse, for the Eston and Normanby Burial Board. Clerk, Burial Board, Normanby, Eston.

✱AUGUST 16.—**Middlesbrough.**—HOUSES.—Erection of 180 houses on Garden Colony Estate, for the T.C. Mr. S. E. Burgess, Borough Engineer, Middlesbrough.

AUGUST 17.—**Whitley and Monkseaton.**—HOUSES.—Erection of one pair of houses, divided into four flats, one block of six Type "A" (living room) houses. Mr. A. J. Rousell, Surveyor, Council Offices, Whitley Bay. Deposit £2 2s.

AUGUST 18.—**Bristol.**—FLATS.—Erection of two blocks of flats at Lawford's Gate, for the T.C. Housing Department, 51, Prince-street, Bristol. Deposit £2.

AUGUST 18.—**Newcastle-on-Tyne.**—NURSES' HOME.—Erection of a large nurses' home on the Dunholme Site, Westgate-road, for the Board of Guardians. Mr. Gladstone Walker, Clerk, 127, Pilgrim-street, Newcastle-upon-Tyne. Deposit £10.

AUGUST 18.—**Southend-on-Sea.**—CLUB.—Erection of club premises for Southend Labour Institute Society. Mr. N. Evans, architect, 27, County Chambers, Weston-road, Southend. Deposit £3 3s.

AUGUST 18.—**Willington.**—HOUSES.—Erection of 30 houses on the Willington Dene Housing Site. Messrs. Hays & Gray, A.A.R.I.B.A., Wingate, Co. Durham.

AUGUST 20.—**Dover.**—PAINTING.—For painting and incidental work at the Isolation Hospitals, Tower Hamlets, and Poulton, for the T.C. Mr. Wm. Boulton Smith, Borough Engineer, Maison Dieu House, Dover.

AUGUST 20.—**East Ham.**—CONVERSION.—For the conversion of open-air swimming baths in Central Park into dressing rooms, &c. Mr. J. Birch, Borough Engineer, Town Hall, East Ham, E.6. Deposit £1.

✱AUGUST 20.—**Islington, N.19.**—ALTERATIONS AND ADDITIONS TO LAUNDRY BUILDINGS AND PLANT.—(*a*) Alterations and additions to the laundry buildings; (*b*) alterations and additions to the plant and machinery, &c., in the laundry at the Infirmary, Highgate Hill, N., for the Guardians of the Poor of the Parish of St. Mary, Islington, in the County of London. Mr. Edmund J. Harrison, Lic.R.I.B.A., 23, Berkeley-road, Crouch End, N.8. Deposit £2.

AUGUST 20.—**Leeds.**—HOUSE.—Erection of a house on the Weetwood Estate, Headingley, for Mr. G. D. Lumb. Messrs. Jones & Stocks, architects, 56, Prudential Buildings, Park-row, Leeds.

AUGUST 20.—**Nenagh.**—HOUSES.—Erection of eight houses, for the U.D.C. Town Clerk. Nenagh. Deposit £2 2s.

AUGUST 20.—**Middleton-in-Wharfedale.**—VARIOUS WORKS.—(1) Painting, (2) road-making, and (3) boundary wall, gates, &c., at Sanatorium, for the West Riding C.C. Health Committee. West Riding Architect, County Hall, Wakefield.

AUGUST 20.—**Penistone.**—VARIOUS WORKS.—Works at Penistone Grammar School: (1) New floor in cookery room; (2) conversion of gymnasium into class-room and class-room into gymnasium. Education Department, County Hall, Wakefield.

AUGUST 20.—**Walthamstow, E.17.**—HOUSES.—Erection of a total number of houses not exceeding 100 at Higham Hill site, Billet-road, Walthamstow. Contractors may tender, for two or more houses, for the Walthamstow U.D.C. Mr. G. W. Holmes, A.M.I.C.E., Engineer and Surveyor to the Council, Town Hall Annexe, Orford-road, Walthamstow, E.17.

AUGUST 20.—**Woolfold.**—PAINTING.—For painting at Wesleyan School. Mr. G. F. Camm, 6, Lamel-street, Tottington.

AUGUST 21.—**Cape Town.**—RESIDENCES, &C.—For erecting residences for men and women, Principal's house, and other contingent works at the site of the new University buildings, Groote Schuur, for the University Council. High Commissioner for South Africa, Trafalgar-square, London, W.C., and Messrs. Hawke & McKinlay, and C. P. Walgate, The Rhodes Buildings, St. George's-street, Cape Town. Deposit £10.

AUGUST 21.—**Chelmsford.**—SHELTER, &C.—For the erection of a shelter, convenience, and dressing room for ladies in the Recreation Ground, for the T.C. Borough Engineer, Municipal Offices, Chelmsford.

AUGUST 21.—**Islington.**—GARAGE.—Erection of a garage at Studd-street, P.O. Stores, Islington, N., for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W. 1. Deposit, £1 1s.

✱AUGUST 21.—**London.**—PAINTING WORKS.—For the execution of painting works at the South-Western District Post Office, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M.O.W., King Charles-street, London, S.W.1. Deposit £1 1s. (payable to the Secretary).

AUGUST 21.—**Oxford.**—EXTENSION.—Extension (for Telephone Exchange) of Oxford Head Post Office, for the Commissioners of H.M. Office of Works. Contracts' Branch, H.M. Office of Works, King Charles-street, London, S.W. 1. Deposit £1 1s. (payable to the Secretary).

AUGUST 21.—**Walsingham.**—PAINTING.—For external painting of 12 houses, for the R.D.C. Mr. W. O. Humphrey, Surveyor, Fakenham.

✱AUGUST 23.—**London, E.1.**—RENOVATING AND REDECORATING.—Renovating and redecorating at the Schools, at Green-street, Upton Park, E.7, for the Guardians of the Parish of St. George in the East. Mr. R. M. Lochner, Clerk, Guardians' Offices, Raine-street, Old Gravel-lane, E.1, on receipt of stamped (postage 6½d.) addressed, large size envelope.

AUGUST 23.—**St. George-in-the-East.**—DECORATIONS.—Renovations and redecorations at the Schools, at Green-street, Upton Park, E. 7, for the Board of Guardians. Mr. R. M. Lochner, Clerk, Offices, Raine-street, Old Gravel-lane, E. 1.

AUGUST 23.—**Swansea.**—HOUSES.—Erection of 14 houses on Llanerch Estate, for the T.C. Mr. E. E. Morgan, Borough Architect, 3, Prospect-place, Swansea.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Brick-layers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Brick-layers' Labourers.	Plasterers' Labourers.
Aberdeen	1/7	1/8	1/7	1/7	1/8	1/8½	1/6½	1/-	
Airdrie	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Alexandria	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2	
Arbroath	1/7	1/6	1/6	1/7	1/6	1/6	1/5	1/1	
Ayr	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Bathgate	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/1 to 1/3	
Blairgowrie	1/7	—	1/7	1/7	1/7	1/7	1/6½	—	
Bo'ness	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2	
Coatbridge	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Dumbarton	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2	
Dumfries	1/5	1/5	1/5	1/5	1/5	1/6	1/5	1/1 to 1/3	
Dundee	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Dunfermline	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Edinburgh	1/7	1/7	1/7	1/7	1/8	1/7	1/6½	1/2½	
Falkirk	1/7	1/7	1/7	1/7	1/7	1/7	1/5½	1/2½	
Fort William	1/7	1/6	1/6	1/6	1/6	1/6	1/6½	1/1½	
Galashiels	1/5	1/5	1/5	1/5	1/5	1/5	1/5½	1/1	
Glasgow	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2	
Greenock	1/7	1/7	1/7	1/7	1/7	1/7	1/5½	1/1 to 1/3½	
Hamilton	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Hawick	1/5	1/5	1/5	1/5	1/5	1/5	1/5½	1/1½	
Helensburgh	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Inverness	1/3½	—	1/3	1/4	1/4½	1/4	1/3½	10d. to 1/3	
Kilmarnock	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Kirkcaldy	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Kirkwall	1/7	1/5	1/3	1/4	1/4	1/4	1/6	1/-	
Lanark	1/7	1/7	1/7	1/7	1/7	1/7	1/5½	1/2½	
Leith	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Motherwell	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Perth	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Stirling	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Stirlingshire (Eastern District)	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	
Wishaw	1/7	1/7	1/7	1/7	1/7	1/7	1/6½	1/2½	

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 226.

AUGUST 25.—**Ebbw Vale.**—HOUSE.—Erection of sexton's house at Ebbw Vale Cemetery, for the U.D.C. Mr. P. I. Davies, Surveyor, Ebbw Vale.

AUGUST 25.—**Percy Main.**—HOUSES.—Construction of two dwelling houses at Low Row, Percy Main, for the Tyne Improvement Commissioners. Mr. Richard Aughton, General Manager, Tyne Improvement Commission Offices, Bewick-street, Newcastle-upon-Tyne. Deposit £2 2s.

AUGUST 25.—**Portrush.**—HALL.—Erection of Masonic hall. Mr. A. J. Clarke, architect, 11, Kerr-street, Portrush.

AUGUST 28.—**Cape Town, South Africa.**—MEDICAL SCHOOL.—Erection of a new Medical School and other contingent works at Groote Schuur, near Cape Town, for the Council of the University of Cape Town. High Commissioner for the Union of South Africa, Trafalgar-square, London, W.C. Deposit £2.

AUGUST 29.—**Blyth.**—HOUSES.—Erection of 50 houses, for the T.C. Borough Engineer, Municipal Buildings, Blyth.

AUGUST 31.—**Barking, Essex.**—SHEDS.—Completing the erection of two open resting sheds, at their Fairecross Elementary School, in their district. One shed is about 90 ft. × 30 ft. in two spans; the other about 55 ft. × 15 ft. in one span, each consisting of cast-iron columns and light fir-framed roofs covered with corrugated asbestone, for the Barking Town U.D.C. Mr. C. J. Dawson, Clock House Chambers, Barking.

★AUGUST 31.—**Barking, Essex.**—BUILDING.—Erection of a Centre for Domestic Instruction, about 43,000 cub. ft., at the site of the Westbury School in this district. Quantities, &c., on and after August 21, at the office of the Council's Architect, Mr. C. J. Dawson, F.R.I.B.A., Clock House Chambers, Barking. Deposit £22s.

★AUGUST 31.—**Sutton-in-Ashfield.**—BATHS.—Erection of public swimming baths, for the Sutton-in-Ashfield Miners' Welfare Committee. Mr. L. Dodsley, architect, Bainbridge Chambers, Brook-street, Sutton-in-Ashfield. Deposit £2 2s.

SEPTEMBER 1.—**Brentford.**—CONVENIENCE.—Erection of a public urinal at the Recreation Ground, St. Paul's-road, for the U.D.C. Mr. W. J. W. Westlake, Clifden House, Brentford.

SEPTEMBER 1.—**Royston, near Barnsley.**—HOUSES.—Tenders are invited for the erection of 12 houses, for the U.D.C.; also the roadmaking and laying of sewer. Messrs. Dyson, Cawthorne & Coles, 10, Regent-street, Barnsley.

★SEPTEMBER 3.—**Dartford.**—HOUSES.—Erection of 24 houses at Ship-lane, Sutton-at-Hone, for the R.D.C. Mr. Eustace J. Hobbs, Clerk, Council Offices, West Hill, Dartford. Deposit £2 2s.

★SEPTEMBER 3.—**Norwood, S.E.**—EXTENSION.—For an extension of the playroom at The Children's Home, "Cumberlow," Goat House Bridge, Norwood, S.E., for the Guardians of the Poor of the Lewisham Union. Guardians' Offices, 394, High-street, Lewisham, S.E. Deposit £1 1s.

SEPTEMBER 4.—**Cardiff.**—PAINTING.—(1) External painting, City Lodge, East; (2) external painting, City Lodge, West, for the B.G. Mr. R. Stephenson, Clerk, Union Offices, 11, Park-place, Cardiff.

★SEPTEMBER 4.—**Hampton, Middlesex.**—HOUSES.—Erection of 24 houses on the Priory-road site, Hampton, for the Urban District Council. Mr. Sidney H. Chambers, Surveyor to the Council, Public Offices, Hampton, Middlesex. Deposit £2 2s.

SEPTEMBER 12.—**Woolwich, S.E.18.**—PAINTING, &C.—Painting works, &c., to the premises Furze Lodge, Plum-lane, Plumstead, for the Guardians of the Woolwich Union. Messrs. Whincop & Channer, architects, 42, William-street, Woolwich.

★NO DATE.—**Gosport.**—ALTERATIONS AND ADDITIONS.—Alterations and additions to the premises 127, High-street, Gosport. Messrs. Timothy White & Co., Ltd. (Construction Dept.), 30, Chandos-street, Portsmouth.

NO DATE.—**Leeds.**—HOUSES.—Erection of two houses and shops, Crossgates-road. Messrs. Fred. Mitchell & Sons, architects, 9, Upper Fountaine-street, Albion-street, Leeds.

NO DATE.—**Northallerton.**—TURBINE HOUSE.—Erection of new turbine house, for Messrs. Miles Sykes & Co., Ltd. Messrs. Glendinning & Hanson, architects, 15, Commercial-street, Halifax.

★NO DATE.—**Lancashire.**—HOUSES.—Erection of houses for Messrs. Pilkington Bros., Ltd. Messrs. Abercrombie & Johnson, Architects, 20, Priory-place, Doncaster.

FURNITURE, MATERIALS, etc.

AUGUST 11.—**Bootle.**—ROAD MATERIAL.—Supply of 670 yds. of 6 in. × 12 in. deep granite kerb, and 860 yds. of 12 in. × 6 in. granite channels. Borough Engineer, Bootle.

AUGUST 13.—**Bristol.**—STORES.—Supply of stores to the Port Authority. Chief Engineer, Avonmouth Docks.

AUGUST 20.—**Wakefield.**—MATERIALS, &C.—Supply of road materials, tools and implements, to the Highways Committee of the West Riding C.C. West Riding Surveyor, County Hall, Wakefield.

AUGUST 22.—**Belfast.**—MATERIALS.—Supply to the Belfast and County Down Railway Co. of stores for twelve months. Storekeeper, Belfast Terminus.

AUGUST 27.—**Bermondsey.**—MATERIALS.—Supply of various materials to the B.C. Mr. Fredk. Ryall, Town Clerk, Town Hall, Spa-road, S.E.

AUGUST 27.—**Chatham.**—KERB.—Supply of granite kerb and setts to the T.C. Mr. R. L. Honey, Borough Engineer, Town Hall, Chatham.

AUGUST 27.—**Johannesburg.**—PAINT.—Supply of 200 gallons of aluminium paint to the T.C. Department of Overseas Trade, 35, Old Queen-street, S.W.

NO DATE.—**Aberdare.**—SUPPLIES.—For supply for period of six months from October 1 next of following articles to the Powell Duffryn Steam Coal Co., Ltd.:—(1) Bar and other iron; (2) bolts, nuts and rivets; (3) gun-metal fittings; (4) asbestos, indiarubber; (5) colliers' tools; (6) ironmongery; (7) steel girders, channels and rails; (8) nails; (9) oilskin clothing; (10) cast steel tram wheels and axles, &c.; (11) steam and Williams' joint tubes and fittings; (12) brattice cloth, waste and yarn, &c.; (14) chains; (16) timber; (18) hay; (20) wire ropes, &c.; (21) pit wood; (21a) Baltic pit wood; (22) lime and cement; (23) electric cable, accessories, &c. The Stores Manager to the Company, Aberaman Offices, Aberdare.

ENGINEERING, IRON AND STEEL.

AUGUST 11.—**Barugh.**—HEATING APPARATUS.—Installation of heating apparatus, Primitive Methodist Church, Barugh. Mr. J. Tissington. Barugh Bridge, Barugh.

AUGUST 11.—**Hull.**—TIDAL GATES.—Construction and fixing of new tidal gates at main drainage outfall. Mr. G. T. Bradley, M.I.C.E., Engineer to the Trustees, Drainage Offices, Hengate, Beverley.

AUGUST 11.—**Leighton Buzzard.**—HOT WATER INSTALLATION.—Providing and fixing hot water installation and other work in connection with same at the Grove Isolation Hospital, near Leighton Buzzard. Mr. Chas. W. B. Calcott, Clerk, 30, High-street, Leighton Buzzard. Deposit 10s. 6d.

AUGUST 11.—**Warrington.**—PUMPS.—Provision and erection of three electrically-driven centrifugal pumps at pumping stations, for the T.C. Mr. James Gray, Waterworks Engineer, Municipal Offices, Warrington. Deposit £1 1s.

AUGUST 13.—**Enfield.**—BOILER.—Supply of vertical boiler for sewage works, for the U.D.C. Mr. T. W. Scott, Clerk, Public Offices, Enfield.

AUGUST 13.—**Greenock.**—FENCING.—Erection of the iron boundary fences at the Upper Cornhaddock Housing Scheme, for the T.C. Office of Public Works, Municipal Buildings, Greenock. Deposit, 10s. 6d.

AUGUST 14.—**Birkenhead.**—HEATING INSTALLATION.—Installation of heating apparatus at the Telephone Exchange, Birkenhead. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

AUGUST 15.—**Edinburgh.**—HEATING.—Installation of heating apparatus at the General Register House, Edinburgh. Engineer, H.M. Office of Works, 4–5, Drumsheugh-gardens, Edinburgh. Deposit £1 1s.

AUGUST 15.—**Manchester.**—ELECTRIC LIGHTING.—For supplying and fixing electric service mains to the Nurses' Home, at the Booth Hall Infirmary, for the Board of Guardians. Mr. Hargreaves, Superintendent of Works, Union Offices, All Saints, Manchester.

AUGUST 18.—**Selby.**—ELECTRIC LIGHTING.—For the installation of electric lighting in the Selby Wesleyan Chapel. Mr. W. T. Blackburn, Brayton-road, Selby.

AUGUST 15.—**Solihull.**—HEATING INSTALLATION.—Installation of heating and hot-water services and steam mains, &c., for Solihull Institution. Mr. Chas. H. Cook, Clerk, Union Offices, Solihull. Deposit £3 3s.

AUGUST 17.—**Walsall.**—WEIGHING MACHINE.—Providing and fixing of a weighing machine (8 to 10 tons) at their Institution, of the B.G. Mr. A. H. Lewis, Clerk, 29, Leicester-street, Walsall.

AUGUST 18.—**Chorley.**—ELECTRIC LIGHTING.—Supply and fixing of the necessary wiring and fittings required in connection with the lighting by electricity of a portion of the interior of the Town Hall. Borough Surveyor, Chorley.

AUGUST 21.—**London.**—ELECTRICAL INSTALLATION.—For electric wiring installation at Somerset House, for H.M. Commissioners of Works. Contracts Branch, King Charles-street, S.W. Deposit, £1 1s.

AUGUST 21.—**Manchester.**—STEELWORK.—For constructional steelwork required for the provision and erection of a new sub-station in Gorton. Mr. F. E. Hughes, Secretary, Electricity Department, Town Hall, Manchester. Deposit £1 1s.

AUGUST 25.—**Hamilton.**—GAS HOLDER.—Erection of a spiral guided gasholder and steel tank of approximate capacity of 1½ million cubic ft., for the T.C. Mr. David Robb, Engineer, Hamilton Gas Works.

AUGUST 29.—**London.**—WEIGHBRIDGES.—For providing and fixing a new 20-ton weighbridge at each of the following institutions: Northern Fever Hospital, Winchmore Hill; Queen Mary's Hospital, Carshalton; Darenth Training Colony, Dartford; Tooting Bec Mental Hospital Extension, Tooting, S.W., for the Metropolitan Asylums Board. Office of the Board, Victoria-embankment, E.C.4. Deposit, £1.

AUGUST 31.—**Chile.**—HARBOUR WORKS.—**Extension of the mole of the Port of Valparaiso and complementary harbour works, depots, &c., for the Navy. Chilean Legation in London.**

AUGUST 31.—**Sheffield.**—BRIDGE.—Designs and tenders for reinforced concrete bridge over River Don at Leppings-lane, for the T.C. Surveyor, Town Hall, Sheffield. Deposit £5.

AUGUST 31.—**Tottenham, N. 15.**—REFUSE DESTRUCTOR.—Dismantling certain cells, boilers, economiser, &c., and the substitution of a modern refuse destructor plant at the Refuse Destructor Works, Down-lane, Tottenham, N., for the Tottenham District Council. Engineer of the Council, Town Hall, Tottenham, N. 15. Deposit £1 1s.

SEPTEMBER 3.—**Dundee.**—BRIDGE.—Erection of plate girder railway bridge over Kingsway, for the T.C. Mr. G. Baxter, City Engineer, Dundee. Deposit £5.

SEPTEMBER 17.—**London.**—MACHINE TOOLS.—Supply of machine tools, for the Council's Tramway Central Repair Depot, Charlton. General Manager, London County Council Tramways, Victoria-embankment, W.C.2. Deposit £2.

SEPTEMBER 27.—**Chile.**—PORT IMPROVEMENT.—Improvement of the Harbour of Constitucion, for the Chilean Government. Chilean Legation, 22, Grosvenor-square, W.1.

NOVEMBER 1.—**Siam.**—BRIDGES.—Supply of superstructures of steel railway bridges to Siam State Railways. Messrs. C. P. Sandberg, 40, Grosvenor-gardens, S.W.1. Charge 28s.

NOVEMBER 30.—**Sydney.**—BRIDGE.—Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour; also an alternative tender for the construction of the superstructure and substructure of an arch bridge across Sydney Harbour. Agent-General for New South Wales, Australia House Strand, W.C.

NO DATE.—**Carmarthen.**—HEATING, &C.—For heating and electric lighting Peniel Congregational Chapel. Mr. J. Howard Morgan, architect, 24, King-street, Carmarthen.

NO DATE.—**Rotherham.**—BRIDGE.—Reconstruction of Bow Bridge across the River Rother, in ferro-concrete, on the Hennebique system, for the T.C. Borough Engineer, Town Hall, Rotherham. Deposit, £10.

ROAD, SANITARY, AND WATER WORKS.

AUGUST 11.—**Campden.**—WATER MAIN.—Laying of cast-iron water main, collecting chamber, &c., at Broad Campden, for the R.D.C. Mr. H. J. White, 119, St. Aldates, Oxford. Deposit £2.

AUGUST 11.—**Diss.**—ROADS.—Supply on hire during September of a 8-ton steam roller, to the U.D.C. Mr. Alfred Cooper, Surveyor, 9, Market-place, Diss.

AUGUST 11.—**Oswestry.**—SEWAGE WORKS.—Laying of 2,800 yds. of stoneware sewer, for the T.C. Mr. G. W. Lacey, Borough Engineer, Oswestry. Deposit £2 2s.

AUGUST 13.—**Market Harborough.**—ROADS.—For resurfacing about 11,500 yards of road with 3 in. bituminous macadam, for the R.D.C. Mr. F. C. Salmon, surveyor, Kibworth, Leicester.

AUGUST 13.—**Worsborough.**—ROADS.—(1) Excavation, concrete foundations and concrete kerb in situ; (2) granite sett paving, for the U.D.C. Mr. T. Shield, surveyor, Saville House, Worsborough Bridge, near Barnsley. Deposit £3 3s.

AUGUST 13.—**Worsborough.**—SEWER.—Construction of 9 in. and 6 in. pipe sewers, from Blackburn-street to Kingwell and Cutting End, for the U.D.C. Mr. T. Shield, surveyor, Saville House, Worsborough Bridge. Deposit £1 1s.

AUGUST 14.—**Adwick-le-Street.**—RESERVOIR.—Construction of a concrete reservoir (capacity 500,000 gallons), for the U.D.C. Mr. George Gledhill, Surveyor, Council Offices, Adwick-le-Street, near Doncaster. Deposit £5.

AUGUST 14.—**Kingussie.**—ROADS.—Formation of roadway and laying of fireclay drain at the Kingussie housing scheme, for the T.C. Mr. A. Cattanach, architect, Kingussie.

AUGUST 14.—**Southend-on-Sea.**—ROADS.—For making up parts of Fairfax-drive, Grange-gardens, Lime-avenue, Porters Grange-avenue, Southview-drive and Eton-road, for the T.C. Mr. R. H. Dyer, Borough Surveyor, Southend. Deposit £2 each road.

AUGUST 15.—**Birkenhead.**—CONCRETING.—For concreting passages, for the T.C. Borough Engineer, Birkenhead. Deposit 10s.

AUGUST 15.—**Leeds.**—ROADS.—For the fixing of kerbs and paving of channels on the Ring-road, from Stonebridge-lane to Swinnow-road, and on the new road from Harrogate-road, Moortown, to Buslingthorpe-lane. Mr. J. B. Hamilton, Commercial Manager, 1, Swinegate, Leeds. Deposit £1 1s.

AUGUST 15.—**Wetherby.**—RESERVOIR.—Construction of a concrete storage reservoir, 100 ft. × 55 ft. × 10 ft. deep, for the Wetherby and District Water Works Co., Ltd. Mr. Fred J. Rodwell (Spinks, Pilling & Rodwell), 37 & 38, Prudential Buildings, Park-row, Leeds. Deposit £1 1s.

AUGUST 16.—**Kilmarnock.**—TENNIS COURTS.—Formation of four municipal tennis courts off London-road, for the T.C. Burgh Surveyor, Kilmarnock.

AUGUST 17.—**Cowdenbeath.**—SEWER.—Laying of 333 lineal yards of 9 in. and 133 lineal yards of 7 in. fireclay sewer, for the T.C. Mr. C. A. Alexander, Burgh Surveyor, Cowdenbeath.

AUGUST 16.—**Wednesbury.**—SEWER.—Construction of 450 yds. of 9 in. stone-ware pipe sewer, for the T.C. Mr. E. Martin Scott, Borough Surveyor, Wednesbury.

AUGUST 17.—**Edeyrnion.**—RESERVOIR, &C.—Construction of a storage reservoir and the providing and laying of about 1,000 yds. of 6 in. and 3 in. water mains at Corwen, for the R.D.C. Messrs. Berrington, Son & Watney, Prudential Chambers, Wolverhampton. Deposit £5 5s.

AUGUST 17.—**Whitley.**—WIDENING.—Widening of the Promenade: (1) At the bottom of the Esplanade (corkscrew steps); (2) fronting the north end of the Waverley Hotel. Mr. A. J. Rousell, Surveyor, Council Offices, Whitley Bay. Deposit £2 2s.

AUGUST 18.—**Durham.**—ROADS.—Construction of roads and sewers in connection with housing scheme at Ludworth, for the R.D.C. Mr. Geo. Gregson, surveyor, 38, Sadler-street, Durham. Deposit £2.

AUGUST 18.—**Hale.**—SEWERS.—For sewering in Hale-road, for the U.D.C. Mr. T. Blagburn, Surveyor, Council Offices, Hale.

AUGUST 20.—**Glasgow.**—ROADS.—Construction of about 3,000 lin. yds. of main road, including the laying of tramways thereon, forming a diversion of the Renfrew-road, between Maxwell-road, Shieldhall, and Millburn Bridge, Renfrew, with three reinforced concrete bridges, carrying the new road over existing and intended lines of railway, for the Clyde Navigation. Engineer, 16, Robertson-street, Glasgow. Deposit £5 5s.

AUGUST 20.—**Kirkintilloch.**—WATER WORKS.—Providing and jointing 1,170 lineal yds. of 12 in. diameter cast-iron water pipes from Antermony Loch to Antermony Reservoir, for the T.C. Messrs. W. R. Copland & Sons, Civil Engineers, 146, West Regent-street, Glasgow. Deposit £1 1s.

AUGUST 20.—**Scunthorpe.**—BOREHOLE.—Sinking borehole, for the U.D.C. Mr. W. Farrar, Surveyor, Council Offices, Scunthorpe.

AUGUST 21.—**Baildon.**—ROADS.—For making-up part of Bank Crest, for the U.D.C. Surveyor, Council Offices, Baildon. Deposit £2 2s.

AUGUST 22.—**Limerick.**—PAVING.—For paving about 36,166 sq. yds. of roadways with reinforced concrete 7 in. thick, 5,102 sq. yds. with re-dressed granite setts, and 4,974 sq. yds. with new granite setts, for the T.C. Mr. J. J. Peacocke, City Surveyor, Town Hall, Limerick. Deposit £2.

AUGUST 25.—**Southgate.**—SEWER.—Construction of surface water sewer and foul sewer, for the U.D.C. Mr. R. Phillips, Surveyor, Town Hall, Palmers Green, N.

AUGUST 27.—**Bishop Auckland.**—SEWER.—Construction of about 2,000 yards of 12 in. and 9 in. stoneware pipe sewer. Messrs. Willcox & Raikes, Union Chambers, 63, Temple-row, Birmingham. Deposit £5 5s.

AUGUST 31.—**York.**—ROADS.—For making up seven streets, for the T.C. Mr. F. W. Spurr, City Engineer, Guildhall, York. Deposit £1 1s.

SEPTEMBER 1.—**Langton Matravers.**—ROADS.—Widening and resurfacing of the "Valley-road," Langton Matravers, about 3¼ miles in length, for the Dorset C.C. Mr. W. T. Fletcher, County Surveyor, County Offices, Dorchester. Deposit £2 2s.

SEPTEMBER 1.—**West Riding of Yorkshire.**—ROADS.—For various road works in the districts of Saddleworth, Stanley, Birstall, Castleford, and Pontefract, for the C.C. West Riding Surveyor, County Hall, Wakefield. Deposit £1.

SEPTEMBER 3.—**Mitcham.**—ROADS.—For the making-up of Lewis-road, for the U.D.C. Surveyor's Office, Broadway House, London-road, Lower Mitcham.

SEPTEMBER 3.—**Uckfield.**—SEWAGE WORKS.—Construction of sewerage and sewage disposal works at Waldron, for the R.D.C. Mr. J. Taylor, Henley House, Uckfield. Deposit £3 3s.

NO DATE.—**Watford.**—ROADS.—For constructing about 500 ft. of roads, with sewers and storm-water mains. Cassiobury Estates, Ltd., 31, High-street, Watford.

Competitions.

(See Competition News, page 202.)

Auction Sales, Tenders, etc.

✱AUGUST 13.—**Borough, S.E.**—Messrs. Charles F. Davis & Co. will sell by auction builders' and decorators' plant and materials, at 37, Union-square, Union-road, under a D/A re W. C. Alderman, by order of the trustee; and other estates. Auctioneers, 285, Borough High-street, S.E.1.

✱AUGUST 14.—**Clerkenwell, E.C.**—Messrs. Charles R. Davis & Co. will sell (re Small & Sons, Ltd.), by order of the receivers and managers for the debenture holders, at the yard and workshops, No. 19½, Compton-street, St. John-street, Clerkenwell, E.C., the whole of the builders', contractors' and decorators' materials and plant; also a capital 1-ton Ford lorry. Auctioneers, 285, Borough High-street, S.E.1.

AUGUST 15.—**London, S.E.5.**—Messrs. Donaldson & Sons will sell, by order of liquidator re G. Hardy & Co., Ltd., at 88, Camberwell-road, S.E.5, the lease of the capital business premises 88, Camberwell-road, held for 5½ years at £65 per annum, with vacant possession of two floors, workshop and offices, two large workshops, large yard and shed. The dwelling-house is let off, producing £118 10s. 4d. Immediately following, the builder's stock will be sold. Auctioneers, 252, Queen's-road, Dalston, E.8.

✱AUGUST 21.—**London, S.W.**—Messrs. Veryard & Yates will sell, without reserve, at 255, Clapham-road, S.W. (close to "Swan," Stockwell), timber, fittings and building materials arising from demolition of a commodious residence. Auctioneers, 365, Norwood-road, S.E.27.

AUGUST 21, 22 AND 23.—**Eltham.**—Mr. F. H. Clark will sell, without reserve, timbers and materials contained in the Women's Hostels, Well Hall-road. Auctioneer, Railway Wharf, York-road, Wandsworth.

AUGUST 23.—**London, E.C.**—Messrs. B. Norman & Son will sell re Chinns, Ltd., in liquidation, by order of the liquidator, removed from 7, Walthman-street, Ludgate-hill, for convenience of sale. Valuable London stock of brasswork, &c., plate-glass showcases, mirrors, office furniture. Auctioneers' Sales Rooms, 5, Little Britain (close to G.P.O.).

✱SEPTEMBER 4, 5, AND 6.—**Sussex.**—Mr. F. H. Clark will sell, without reserve, the whole of the huts and building material contained in South Camp, Seaford, Sussex. Auctioneer, Railway Wharf, York-road, Wandsworth.

Public Appointments.

AUGUST 20.—**Lambeth, S.W.2.**—Junior Engineering Assistant required in the Borough Engineer's Department by the Metropolitan Borough of Lambeth Council. Mr. Bruce Penny, Town Clerk, Lambeth Town Hall, Brixton Hill, S.W.2.

AUGUST 20.—**Stoke-on-Trent.**—Competent Temporary General Architectural Assistant required by the County Borough of Stoke-on-Trent. Mr. A. Burton, Borough Surveyor, Town Hall, Stoke-on-Trent.

AUGUST 20.—**East Ham, E.6.**—Clerk of Works required to supervise the erection of extension to the Town Hall and Public Offices by the Town Council of the County Borough of East Ham. The Borough Engineer, Town Hall, East Ham, E.6.

✱SEPTEMBER 3.—**Middlesex.**—Architect or Building Surveyor required by the Justices of the Gore Division of Middlesex to examine the plans of alterations, &c., proposed in licensed premises, and to advise them thereon. The Clerk to the Justices, Edgware, by enclosing a stamped addressed envelope.

THE LAW OF HIGHWAYS.*

THE last edition of this standard work on highways appeared in 1911, and if in the twelve years that have elapsed much water has run under the bridges, it is equally true to say much traffic has run over the highways; and it is not only the quantity of that traffic which has increased in that period, but its quality has also entirely altered. The problem of our highways is a very serious one in consequence, and much attention will have to be given to this subject in the near future and thus this latest edition of a well-known treatise appears at a particularly opportune time. The law of highways has always been a complicated subject, but recent developments and numerous statutes have rendered the subject even more abstruse. This can be appreciated when we say that the present volume, apart from the tables of statutes, tables of cases, and index runs to 1,309 pages of clear but not very large print, but the authors have not neglected to extend that helping hand to the practitioner and reader—an excellent index—which also occupies 172 pages. That the law does not stand still while the traffic moves on is proved by the fact that the authors, in their preface, state that they have added more than 400 references to cases decided since the last edition went to press, and also over a hundred references to decisions delivered before that date. The work is divided into two parts—I, The law of highways considered independently of Statute law, and, II, Statutes relating to highways, main roads, streets, and bridges.

As regards recent legislation, the authors state that perhaps the most striking changes in the law have been the transfer of the powers relating to highways from the Local Government Board, first to the Minister of Health and finally to the Minister of Transport; the supersession by the Minister of Transport of the Road Board and the Light Railway Commissioners; and his acquisition of most of the Board of Trade's powers in relation to roads, bridges, and traffic. It is unnecessary to inform our readers that many of the subjects included in this treatise are of especial interest to them; buildings and highways are closely connected and the material statutes such as the Public Health Acts, the Private Streets Act, and the Locomotive and Highway Acts and other legislation are dealt with in these pages. In connection with the latter Act the authors in their preface point out that the law of "extraordinary traffic" has attained greater certainty and, of course, this is fully dealt with.

The subjects treated of seem to have been brought well up to date, for we find the decision we commented upon so recently as May 25 (The King *v.* Adams on licences for taking material for highways) included in the text, and, so far as we have tested it, the same may be said of other parts of the work. In our legal section (November 25, 1921), we drew attention to a point in connection with the case Macclesfield Corporation *v.* Macclesfield Grammar School, on what is a reasonable time to allow frontagers, called upon to make up a street under the Public Health Act, 1875. The learned judge in that case intimated that the time must be reasonable in connection with the work each frontager was called upon to do, and not, as has, we believe, usually been the view, a reasonable time for the performance of the job as a whole, and we pointed out that this was an extremely important point to frontagers, as it would prejudice them in the time allowed them for the work. This case is, of course, referred to in those pages, but the point we raised was that the dictum was not material to the actual decision where three months was held a reasonable time for the whole work, and the authors are more than justified in passing over an obiter dictum without comment.

We cannot pass from this work without quoting one further passage from the preface. "The old problem of how to accommodate the highways to increased and novel traffic, and to avoid the restriction of such traffic within present limitations, is with us in an urgent and intensified form. We observe in the spheres of politics and litigation the struggle between the often opposed interests of the State and local authority, the railway or canal company and the users of traffic. It is certain that during the next few years fresh legislation will be effected from time to time, and the law of highways will become an increasingly important, and, it is to be feared, an increasingly complicated subject." The state of our highways is in even a more confused state than the law relating to them, and the users of the highways cannot have their way made clear by any text book. The complication in the law can be faced therefore with comparative equanimity so long as text books like that we are reviewing are provided, erecting sign boards at every difficult corner, but the congestion of the traffic itself is an even more difficult problem. No recommendation of a standard work which is in its seventeenth edition is required, but we may say that there appears every reason to believe that the present edition will prove as useful as its many predecessors, and will be even more welcomed, as it is an exhaustive exposition of the law on a subject which every day is growing in public importance as the highway has now become the rejuvenated rival of the railway.

* "Pratt and Mackenzie's Law of Highways, being the Law of Highways, Main Roads, Streets, and Bridges." By Joshua Scholefield, K.C., and Archibald W. Cockburn, M.A., Barrister-at-Law. Seventeenth edition. (London: Butterworth & Co. 1923. 77s. 6d. net. Thin edition 8s. extra.)

NEW COMPANIES.

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 & 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

M. WHITELEY, LTD. (191,390). Registered July 18, 129 and 131, Duddiston Mill-road, Birmingham. Tile fixers and slabbers, brick and tile manufacturers and merchants, builders' merchants and builders and contractors. Nominal capital, £1,000.

FROGGATT & PRIOR, LTD. (191,383). Registered July 18. 211, Broad-street, Birmingham. To acquire from William Froggatt and Henry Prior the business carried on by them at 211, Broad-street, Birmingham, of building contractors, heating, electrical, wireless and general engineers, sanitary and general plumbers, builders and repairers. Nominal capital, £1,000.

BUTCHER & SIMPSON, LTD. (191,350). Registered July 17. 7, Cochrane-street, Wellington-place, St. John's Wood, N.W.8. Builders and contractors, &c. Nominal capital, £1,000.

R. O. ARNOLD, LTD. (191,363). Registered July 17. Prudential Chambers, Silver-street, Doncaster, York. Builders' merchants, builders and general contractors, &c. Nominal capital, £3,000.

THOS. HIGSON & SONS, LTD. (191,269). Registered July 12. Byrom-street Saw Mills, Blackburn. Builders and contractors and all allied trades. Nominal capital, £2,500.

HARTLEY'S (CASTLEFORD), LTD. (191,291). Registered July 13. County Chambers, Castleford, York. Brick and tile, stoneware and earthenware manufacturers, now carried on by Charles Ibbotson Hartley, and Joshua Hartley, at Castleford, Whitwood Mere and Cawood, all in the County of York, under the style of Joshua Hartley & Co. Nominal capital, £40,000.

GUILDFORD AND DISTRICT GUILD OF BUILDERS, LTD. (191,248). Registered July 11. To carry on the business of builders and contractors, &c. Nominal capital, £500.

NORTH-EAST BUILDING TRADERS' PROTECTION SOCIETY, LTD. (191,571). Registered July 26. 16A, Grainger-street, Newcastle-on-Tyne. To protect the mercantile interests of persons, firms, companies and corporations engaged in the business of builders' merchants. Nominal capital, £100.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 2 0
Second Hard Stocks	3 17 0

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at			
King's Cross	2 13 3	Best Blue Pressed Staffs.	9 11 6
Do. grooved for plinths	2 15 3	Do. Bullnose ..	10 1 6
Do. Bullnose	3 8 3	Blue Wire Cuts	7 11 6

Best Stourbridge Fire brick :—

2½ in.	11 3 0	3 in.	13 2 0

Glazed Bricks—

Best White Ivory, and Salt Glazed Stretchers	22 0 0	D'ble Str'tch'rs	30 10 0
		D'ble Headers	27 10 0
		One Side and two Ends	31 10 0
Headers	21 10 0	Two Sides and one End	32 10 0
Quoins, Bullnose and 4½ in. Flats	28 10 0	Splays and Squints	30 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	2 1	3 in. per yd. super	2 9
2½ in. "	2 5	4 in. "	3 7

	s. d.	
Thames Ballast	10 6	per yard.
Fit Sand	14 9	" "
Thames Sand	15 6	" "
Best Washed Sand	15 6	" "
½ in. Shingle for Ferro-Concrete	14 0	" "
¼ in. " "	15 0	" "
½ in. Broken Brick	10 6	" "
Pan Breeze	5 6	" "

delivered 2 miles radius Paddington.

Per ton delivered in London area in full van loads.

Best Portland Cement, British Standard Specification Test £2 18 0 to £3 3 6

51/- alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 10 0
Super Cement	4 8 0
Roman Cement	3 15 0
Parian Cement	5 13 0
Keene's Cement, White	5 8 0
" Pink	5 3 0
Plaster, Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	5 12 0
Sirapite, Coarse	3 9 6
" Finish	3 17 6
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	2 13 6
Hair	17 0 0
Granite Chippings	1 12 0

Note.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months, carr. pd.

Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dpt.

STONE.

	s. d.
Bath Stone—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	3 0½
Portland Stone—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4½
Do. do. delivered on road wagons at above stations, per ft. cube	4 5½
White basebed, 3d. per ft. cube extra.	
Note.—½d. ft. cube extra for every foot over 20 ft. *average*, and ¼d. cube extra for every foot over 30 ft.	
Hopton-Wood Stone.	
Delivered at any Goods Station, London.	
Small random blocks, up to 10 ft. cube. Per ft. cube	7/-
Random blocks from 10 ft. and over "	17/-
Sawn two sides "	27/-
Sawn three or four sides "	32/-
York Stone, Blue—*Robin Hood Quality.*	
Delivered at any Goods Station London.	s. d.
6 in. sawn two sides landings to sizes (under 30 ft. super.) Per Ft. Super	5 3
6 in. rubbed two sides, ditto "	5 9
3 in. sawn two sides slabs (random sizes) "	2 1½
2 in. to 2½ in. sawn one side slabs (random sizes) "	1 5½
1½ in. to 2 in. ditto, ditto "	1 3
Hard York—	
Delivered at any Goods Station London.	
Scappled random blocks Per Ft. Cube	5 6
6 in. sawn two sides landing to sizes (under 40 ft. super.) Per Ft. Super	5 4½
6 in. rubbed two sides ditto "	6 0½
4 in. sawn two sides slabs (random sizes) "	2 10
3 in. ditto. ditto "	2 5
2 in. self-faced random flags. Per Yard Super	7 11

ARTIFICIAL STONE.

	s. d.
Delivered in London Area in full van loads.	
Plain per ft. cube	6 6
Moulded " "	7 9
Cills " "	8 3

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£24 0	3 × 6	£25 0
4 × 9	34 0	3 × 11	34 0
4 × 8	28 0	2 × 11	34 0
4 × 7	26 0	3 × 9	32 0
3 × 8	26 0	2½ × 9	32 0
3 × 7	25 6	3 × 4½	24 0
2½ × 7	24 10	3 × 4	24 0

WOOD (*Continued*).

PLANED BOARDS.

1 × 11	£38 10	1 × 9	£36 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
⅝	20/-	1¼	33/6
¾	23/-	1½	38/6
1	25/6		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.
1	25/6
1¼	33/6
1½	38/6

MATCHINGS (BEST).

Inches	per sq.
⅝	17/6
¾	22/-
1	26/-

BATTENS

Inches	s. d.
⅞ × 2	2 4 per 100 ft.

SAWN LATHS.

Per bundle	0 2 10

Dry Wainscot Oak, per ft. super, as inch	0	2	0	to 0	2 6
¼ in. do. do.	0	1	6	to 0	2 0
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	1	9	to 0	2 6
Cuba Mahogany	0	3	6	to 0	4 0
Teak (Rangoon, Moulmein or Java), per load	45	0	0	to 50	0 0
American Whitewood planks, per ft. cube	0	14	0	to 0	16 0
Best Scotch Glue, per cwt.	4	10	0	to —	
Liquid Glue, per cwt.	4	7	0	to 5	10 0

SLATES.

1st quality slates from Bangor or Portmadoc in truck loads delivered London area. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 7 6
Ditto hand made ditto	5 12 6
Ornamental ditto	5 17 6
Hip and valley tiles (per dozen) { Hand made	0 9 6
Machine made	0 9 0

METALS.

	£ s. d.
Joists, Girders, &c., to London Station per ton—	
R. S. Joists, cut and fitted	13 10 0
Plain Compound Girders	15 10 0
" Stanchions	17 10 0
In Roof Work "	20 10 0

MILD STEEL ROUNDS.
To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	16 10 0	⅜ in. to ½ in.	13 10 0
⅜ in.	14 10 0	⅝ in. to 2½ in.	13 0 0

Wrought-Iron Tubes and Fittings—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes.	Fittings.	Flanges.
Gas	52½%	52½%	62½%
Water	47½%	47½%	57½%
Steam	42½%	42½%	52½%
Galv'd—			
Gas	37½%	42½%	52½%
Water	31½%	37½%	47½%
Steam	25 %	32½%	42½%

C.I. Half-Round Gutters—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/1½	11d.	3½d.
3½ in.	1/2½	1/0½	3½d.
4 in.	1/4	1/1½	3½d.
4½ in.	1/5½	1/4	4d.
5 in.	1/7½	1/5½	5d.

O.G. Gutters.

3 in.	1/6½	1/2½	3½d.
3½ in.	1/9½	1/2½	3½d.
4 in.	1/7½	1/4	3½d.
4½ in.	1/9½	1/6½	4d.
5 in.	2/1½	1/9	5d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/7½	1/1½	1/8
2½ in. "	1/9½	1/4	2/0½
3 in. "	2/1½	1/8	2/5½
3½ in. "	2/6½	1/11½	2/10½
4 in. "	2/11½	2/4½	3/5½

L.C.C. Coated Soil Pipes—London Prices ex works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6fts plain	3 0½	2 2½	2 8
2½ in. "	3 6½	2 5½	3 3½
3 in. "	4 2½	2 8	4 0½
3½ in. "	4 7	3 3½	4 8½
4 in. "	5 1	3 9½	5 5

L.C.C. Coated Drain Pipes—London Prices ex works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3 in. per yd. in 9ft. lengths	4 9	5 8	8 10
4 in. " "	6 3	6 8	11 4
5 in. " "	7 6	11 6	18 2
6 in. " "	8 10	14 4	23 5

Iron—	Per ton in London. £ s. d.		£ s. d.
Common Bars	14 0 0	to	15 0 0
Staffordshire Crown Bars—good merchant quality	14 10 0	..	15 10 0
Staffordshire "Marked Bars"	17 0 0	..	18 0 0
Mild Steel Bars	13 10 0	..	14 10 0

METALS (*Continued*).

	£ s. d.		£ s. d.
Steel Bars, Ferro-Concrete quality, basis price	13 10 0	..	14 10 0
Hoop iron, basis price	16 10 0	..	17 10 0
Galvanised	31 0 0	..	32 0 0
Soft Steel Sheets, Black—			
Ordinary sizes to 20 g.	15 10 0	..	16 10 0
" " " 24 g.	16 10 0	..	17 10 0
" " " 26 g.	18 10 0	..	19 10 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	21 10 0	..	22 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	22 10 0	..	23 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	24 10 0	..	26 10 0
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	21 0 0	..	22 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	21 10 0	..	22 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	23 10 0	..	24 10 0
Sheets Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker	23 10 0	..	24 10 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 10 0	..	26 10 0
Best Soft Steel Sheets, 26 g.	26 0 0	..	27 0 0
Cut Nails, 3in. to 6 in.	21 10 0	..	23 0 0

(under 3in. usual trade extras.)

Metal Windows—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1/6 to 1/7 per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.		
Lead—Sheet, English, 4 lb. and up	34 0 0	..	—
Pipe in coils	34 10 0	..	—
Soil Pipe	37 0 0	..	—
Compo pipe	38 0 0	..	—
Lead pipe	34 0 0	..	—

Note—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	21 10 0	..	—
Do., ex country, carriage forward per ton	22 10 0	..	—

PLUMBERS' BRASS WORK.

Delivered in London.

New River Pattern Screw Down Bib Cocks for Iron.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/	45/-	76/-	153/-	246/-	510/- per doz.

New River Pattern Screw Down Stop Cocks and Unions.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

New River Pattern Screw Down Main Ferrules.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz

Caps and Screws.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

Double Nut Boiler Screws.

¾ in.	¾ in.	1 in.	1¼ in.	1½ in.	2in.
7/6	11/6	17/-	29/-	36/-	63/- per doz.

Brass Sleeves.

1¼ in.	2 in	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

New River Pattern Croydon Ball Valves. S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

Drawn Lead P. & S. Traps with Brass Cleaning Screw.

	1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	33/-	45/-	66/-	126/- "

Copper—	£ s. d.		
Strong Sheet per lb.	0 2 3	..	—
Thin "	0 2 4	..	—
Copper nails "	0 2 3	..	—
Copper wire "	0 2 4	..	—
Tin—English Ingots "	0 2 0	..	—
Solder—Plumbers' "	0 0 11	..	—
Tinmen's "	0 1 1	..	—
Blowpipe "	0 1 3	..	—

PAINTS, &c.

	£ s. d.
Raw Linseed Oil, in pipes per gallon	0 3 8
" " " in barrels "	0 3 10
" " " in drums "	0 4 1
Boiled " " in barrels "	0 4 2
" " " in drums "	0 4 4
Turpentine in barrels "	0 6 6
" in drums (10 gall.) "	0 6 9
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)	55 10 0

Genuine White Lead Paint—
"Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots per ton delivered 77 0 0

Red Lead, Dry (packages extra)	per ton	42 0 0
Best Linseed Oil Putty	per cwt.	0 16 0
Filocot	per cwt.	0 15 6
Size, XD Quality	fkn.	0 3 6

[Concluded on next page.]

* The information given on this page has been specially compiled for The Builder and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft
15 oz. fourths	3½d.	32 oz. fourths.....	8½d.
15 „ thirds	4½d.	32 „ thirds.....	10½d.
21 „ fourths	5d.	Obscured Sheet, 15oz.	4d.
21 „ thirds	6½d.	21 „	5½d.
26 „ fourths	6d.	Fluted 15oz.	6½d. 21oz. 9½d.
26 „ thirds.....	7½d.	En'lled 15 „	5½d., 21 „ 7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4½d.
¼ Rough rolled	5½d.
⅜ Rough rolled	5½d
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white.....	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per gallon £	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Copal Carriage	ditto	1	4	0
Best ditto.....	ditto	1	12	0
Floor Varnish.....	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	6
Fine Copal flatting	ditto	1	0	6
Hard drying Oak	ditto	0	18	0
Fine Hard drying Oak	ditto	0	19	0
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	2	0
Best ditto	ditto	1	12	0
Best Japan Gold Size.....		0	12	0
Best Black Japan.....		0	12	0
Oak and Mahogany Stain (water).....		0	12	0
Brunswick Black.....		0	9	0
Berlin Black.....		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish.....		0	17	6
Liquid Dryers in Terebine.....		0	9	0
Cuirass Black Enamel.....		0	7	0

PATENTS.*

APPLICATIONS PUBLISHED.*

179,516.—Wirebounds Patents Co.: Machines for use in making boxes.

197,100.—H. W. L. Pell: Grates or gratings for street gullies.

197,124.—H. N. Wylie: Portable structures.

197,220.—G. R. Sandford and W. T. Summers: Ladders.

197,221.—J. J. Evans and J. T. Ramsden: Safety-device for use with ladders.

197,228.—J. J. Ferguson: Heating systems for buildings.

197,250.—D. A. MacAskill: Windows.

197,258.—R. A. Hooper: Sliding-sash windows.

197,713.—M. Bacchiolelli and A. Meifred-Devals: Manufacture of articles made of melted igneous rocks.

197,735.—F. G. Lynde and E. L. Lynde: Apparatus for producing and imparting vibrations, particularly applicable for vibrating or tapping concrete while in a plastic state.

197,767.—J. Honey: Posts for attachment to tables and shelves.

197,768.—R. Heath and Low Moor, Ltd., and W. E. Harvey: Bars for reinforcing concrete.

197,790.—J. Lyons & Co., Ltd., A. Goddard, and G. Douglass: Systems of control for lifts.

197,791.—C. S. Garnett, W. A. Reid, F. E. S. Greenwood, and F. S. Cowlishaw: Composition and manufacture of refractory basic bricks.

197,800.—T. Wiggans: Sash fasteners.

197,808.—N. R. Bennet: Frames of school desks.

197,819.—F. J. Brougham (Perfect Window Regulator Co.): Rotatable handles and means for mounting them.

197,821.—S. Templeman and Co-operative Wholesale Society, Ltd.: Sliding doors of show cases and cabinets.

197,822.—J. Platt: Saws.

197,842.—C. Y. Hopkins and J. Cartland & Son, Ltd.: Means for actuating fanlight windows

* All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.

197,849.—J. E. M. MacGregor: Opening and closing mechanism for fanlights and other lights.

198,758.—R. Bendall: Construction of roads and other similar work, and concrete slabs therefor.

198,759.—A. G. Gray: Derricks or cranes.

198,779.—Cleveland Bridge & Engineering Co., Ltd., and C. W. Hill: Machinery of draw-bridges, cranes and dock gates.

198,783.—L. Alwyn: Manufacture of moulds for making concrete or like beams, blocks, columns.

198,803.—E. R. Appleton: Collapsible frames for tents and tables.

198,808.—W. E. Siday and J. T. Tidd: Brackets or supports.

198,817.—W. Green: Ceramic material.

198,820.—L. C. MacBean: Screw-down water taps.

198,823.—J. H. James: Method or process of manufacture of cabinet or like catches and anti-friction runner fittings.

198,825.—W. Carpmael (Chemische Fabriken vorm. Weiler-ter Meer): Process for impregnating wood.

198,863.—Caswell & Shearing, Ltd., and G. F. Caswell: Guy derricks.

198,884.—E. Somerfield: Construction or preparation of ground or floor surfaces suitable for hard-court Tennis and Badminton.

198,887.—W. A. J. Morrow: System of mural decoration.

198,896.—J. G. Zwicker: Apparatus for moulding pipe sections.

TRADE NEWS.

Messrs. Fenlon & Son, of 8, Tudor-street, E.C., have issued an illustrated pamphlet giving their latest list of geysers. The illustration shows the "C.C. Fleet" geyser, a high-grade geyser with closed chamber and detachable interior for cleaning or repair. This, it is

claimed, has been found to meet the demand for an efficient low-priced geyser. The heated water is fit for drinking. The Geyser, which we illustrate, is made of stout, hardened copper (including condensation trough), interior tinned, exterior polished and lacquered.

Messrs. Luckwood & Kesterton, Sentinel House, Southampton-row, W.C.1, have recently opened a builders' merchants business for the supply of all general ironmongery, hardware sanitary goods, cast iron baths, &c.

Mr. Frederick Parker has removed to Viaduct Works, Catherine-street (extension), Leicester, where he has larger and more commodious premises.

NEW BUILDINGS IN SCOTLAND.

Aberdeen.—HOSPITAL SCHEME.—At a meeting of the Royal Hospital for Sick Children it was stated that Mr. and Mrs. Herbert Taylor, of Rhu-na-Haven, Aboyne, had offered to pay for the site allocated to the hospital, provided the new scheme is proceeded with in a reasonable time. The estimated cost of the site at Forester-hill and Burnside is £5,550.

Glasgow.—VARIOUS.—At the last meeting of the Dean of Guild Court plans for new buildings at the corner of Trongate and Stockwell-street, for the Corporation, were deferred for further consideration. The estimated cost of the buildings was £190,000. The following plans were approved:—The Corporation Housing Department, streets and sewers at Hamilton-hill; MacFarlane, Lang & Co., 38, Wesleyan-street, additions to biscuit factory, Clydeford-drive, Tollcross, at £23,000; the Govan Ropework Co., Ltd., Helen-street, Govan, additions to work on the west side of Helen-street; the Rev. William Ogg and other, trustees of Mount Florida United Free Church, a church hall at the church, Cathcart-road and Hampden-street; Dallas's, Ltd., Milton House, 160–174, Cowcaddens-street, additions to property at Cowcaddens-street; James Craig (Glasgow), Ltd., 10–38, Woodlands-road, alterations to premises at 123–127, Sauchiehall-street; and Brown & Adam, Ltd., Riverbank Works, Pollokshaws, additions to works at Riverford-road, Pollokshaws.

Prestonpans.—SCHOOL.—East Lothian Education Authority decided to build a new secondary school at Preston Lodge, Prestonpans.

Edinburgh.—LIBRARY ALTERATIONS.—The Corporation Public Library Committee has asked the City Architect to obtain tenders for the alterations necessary for installing the open access system in the Central Library.

Buckie.—HOUSES AND SHOPS.—The T.C. has passed plans for a house and shops at Baron-street for Mr. C. Forbes, baker, and a store in Baron-street, for Mr. A. Grant, carting contractor.

Dumfries.—HOUSES.—The foundation stone of the municipal houses at Cresswell has been formally laid. This scheme is the first in Scotland on which building operations have actually been started under the new Housing Act.

Edinburgh.—VARIOUS.—At the last meeting of the Dean of Guild Court a warrant was granted to the city for the reconstruction of the flooring in the Synod Hall and the erection of tip-up seats. The flooring will be graded from back to front and the seats arranged in semi-circular rows. The cost will be £8,000. Warrants were also granted for the conversion of houses at Merchiston-avenue and Glencairn-crescent, while the erection of a cottage at Pinkhill and semi-detached houses at Riselaw-crescent and Ravelston Dykes were also approved. The North British Cold Storage and Ice Company, Leith, received a warrant to erect an additional story to their building for offices.

Aberdeen.—SCHOOLS, &c.—The T.C. Plans Committee have passed nineteen plans, at an estimated value of £11,000. These included plans for Aberdeen Grammar School former pupils' memorial pavilion at Harlaw-road, at an estimated cost of between £4,000 and £5,000. Six plans were for garages and two for bungalows.

Portobello.—TRAMWAYS.—The Tramway Committee recommends the Edinburgh Corporation to lay down electric tramways between Seafield, Leith and Portobello.

Housing Subsidy for Builders.

The Rhondda U.D.C. has decided to encourage building by local enterprise by granting a subsidy of £100 per house to builders subject to satisfactory safeguards being arranged to ensure that any subsidy so paid would be applied in reducing ultimate cost of the house so as to enable it to be sold or let on an economic and self-supporting basis.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	6
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	35	0
Add if in underpinning in short lengths	" "	7	6
Add if in floors 6 in. thick	" "	3	6
Add if in beams	" "	4	0
Add if aggregate 1 : 2: 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	3	3

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	2	0	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	1
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	9	0
½ inch on flats in two thicknesses	" "	6	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	3

MASON.

		s.	d.
York stone templates fixed	per foot cube	12	6
York stone sills fixed	" "	21	6
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	19	6

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	3
Do. joists	" "	5	9
Do. roofs, floors and partitions	" "	6	3
Do. trusses	" "	8	3

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	38/-	44/-	50/-	80/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	4
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.

		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/8	1/9	2/0
Deal shelves and bearers	"	1/5	1/7	1/10
Add if cross tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	17	0
Plain compound girders	"	20	0
Do. stanchions	"	23	0
In roof work	"	28	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do.	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	51	0
Do. Do. in flats	"	49	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	10d.	1/6	1/9	3/1	3/10	
Do. service	"	1/5	1/11	2/3	3/6		
Do. soil	"						6/2
Bends in lead pipe	each					3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"				14/7	19/6	
Bib cocks and joints	"	6/4	9/7	15/4	41/-		
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	3
Do. Do. Sirapite	" "	2	6
Do. Do. Keen's	" "	3	6
Add sawn lathing	" "	1	5
Add metal lathing	" "	2	3
Portland cement screed	" "	1	10
Do. plain face	" "	3	0
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	9
26 oz. Do.	" "	1	1
Obscured sheet	" "	1	3
¼ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	11
¼ in. wired cast plate	" "	1	5

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece	2/- to 4/-	

* These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 14 should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

PROPOSED NEW BUILDINGS & OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

AUDENSHAW.—Plans passed by U.D.C.: Two houses, Droylsden-road, Mr. S. Hadfield; extension of workshop, Planet Foundry Co., Audenshaw; two houses, Kershaw-lane, Mr. A. Lomas; shop, Mrs. Shaw.

BEXHILL.—Plans passed by T.C.: Dwelling-house, Cooden-drive, by Mr. A. C. Morris Edwards, for Miss J. E. Bone; dwelling-house, Bedford-avenue, by Messrs. Strouds, for Mrs. F. M. Crawford; residence, Ninfield-road, by Mr. J. E. Maynard, for Mr. Leeson; detached house, Kewhurst-avenue, Cooden, by Mr. D. B. Sceats, for Mr. A. G. Seaward; bungalow, Mayo-lane, Sidley, by Mr. D. B. Sceats, for Mr. H. Gillam; bungalow, Wickham-avenue, by Messrs. R. W. Price & Sons, for Miss K. Williams; dwelling-house, Sutherland-avenue, by Mr. H. W. Hetherington Palmer, for Mr. F. Climpson; dwelling-house, De La Warr-road, by Mr. G. Cash, for Miss L. E. Frost; bungalow, Kewhurst-avenue, Cooden, by Mr. E. H. Gandy, for himself; bungalow, Gillham Wood-road, Cooden, by Mr. E. H. Gandy, for himself; detached house, Barnhorn-lane, by Messrs. Wall, Callow & Callow, for Mr. A. E. Swaffer; dwelling-house, Highlands Estate, Turkey-road, by Mr. G. H. Gray, for Lieut.-Col. C. V. Isacke; residence, Hartfield-road, by Mr. J. H. Lye, for Mr. F. R. Swinburne; residence, Hever-crescent, by Mr. J. H. Lye, for Mrs. C. C. L. Druery; residence, Amherst-road, by Mr. J. H. Lye, for Mr. W. Shannon.

BLACKPOOL.—Plans passed by T.C.: Bungalow, Hemmingway, W. Schofield: house, Hesketh-place, G. H. Dewhurst; house, Leamington-road, P. Round; three houses and two garages, Westmoreland-avenue, B. Small; four houses, Rangway-avenue, H. H. Johnson; four houses, Rangway-avenue, H. H. Johnson; bungalow, Hemmingway, H. Schofield; seven houses, Handsworth-road, A. & E. Fielding; bungalow, Bank-avenue, J. England & Son; two houses, Dale-avenue, Bryning & Done; ten houses, Grenfell-avenue, E. Mason; two bungalows, Arlington-avenue, E. Farrar; two houses, Westmoreland-avenue, A. & H. Saltonstall; house, Boothley-road, C. Smith; six houses, Queensway, H. Wilkinson; six houses, Rothsay-road, A. E. Murdock; six houses, Rothsay-road, A. E. Murdock; three houses, Central-drive, J. Harrison; two houses, St. Anne's-road, L. Pilkington; two houses, Osborne-avenue and Queen Victoria-avenue, Suthers, Wilson & Randall; eight houses, King's-drive and King Edward-avenue, J. & T. Greenwood; two houses, Kirkham-avenue, E. R. Grimshaw; two houses, St. Annes-road, W. Briggs; two houses, Palatine-road and Bennett-avenue, G. Riley; two houses, Westfield-road, R. Marshall; bungalow, Piccadilly, —. Cooke; two houses, Warley-road, Holgate & Saxon; bakehouse, shops and flats, New-road, Dewhurst & Rose, Ltd.; business premises, Henry-street and Field-street, —. Forbes; storeroom, Park-avenue, J. Hardiman; addition, 1, Bryan-road, W. Waller; alterations, "Newlands," Newton-drive, J. F. Keisall; additions, Rothsay-road, E. Chappell; alterations, Birley-street, Union Bank of Manchester, Ltd.; alterations, 61 & 63, Church-street, S.S., S. Whewell; additions, Bournemouth-road, T. Burton; stable and coach-house, Hawthorne-road, Williams & Co.; garage, 33, Whitegate-drive, Dr. Depree; house, Bournemouth-road, Mrs. S. A. McClean; two garages, 53, Withnell-road, G. Morrison; shop front, 150, Warbreck-road, W. Brown; two bungalows, Bispham-road, Wetton & Williams; two houses and shops, Highfield-road, J. Hill; bungalow, Gloucester-avenue, Mrs. Sanderson; three bungalows, Bank-avenue, J. England & Son.

BOLTON.—Plans passed by T.C.: Mr. Wm. H. Orrell, eleven wash-houses and sculleries, Durban-road; Mr. J. T. Clemmet, garage, 58, Seymour-road; Mr. T. Bolton, two semi-detached houses, Belmont-road; Richard Ball, for alteration to garage, 8, Defence-street; David T. Orrell, garage, 131, Chorley Old-road; W. Barlow, garage, 69, Chorley Old-road; J. C. & F. Woods, pair houses, Church-road; T. Gleave, garage, Greenmount-lane; Leigh Bros., shop, Chorley-Old-road; W. R. Bleakley, house, Chorley New-road; Fred Graham, for tennis pavilion, Regent-road; E. & S. Street, Ltd., pair houses, St. Michael's-avenue; Redfern & Robinson, pair houses, Regent-road; Fred Bennett, house, Regent-road; L. Whalley, bungalow, Bradford-road; A. S. Woods, pair of houses, Easedale-road; Wm. Gornall & Son, pair villas, Carlton-road; Thomas Blakley, pair houses, Green-lane; J. H. Coope, house, Green-lane; F. S. Walker, house, Harper's-lane; G. W. Crompton, paint and ladder store, back Chorley New-road; J. Sharman & Sons, Ltd., extension to premises, "Sir Sidney Smith," Bridgman-street; Thomas Blakley, pair houses, Wigan-road; Bolton Spinning Co., Ltd., new roof to warehouse, Turner Bridge; Waterworks Dept., garage, Bark-street; J. C. & F. Woods, nine garages, Sefton-road; Joshua Taylor, Ltd., seven garages, off Radcliffe-road; Magee Marshall & Co., addition to premises, Stonehouse Farm; Knowles & Green, addition to works, Undershore Bleachworks; Joseph Uttley, 24 houses, Halliwell Lodge Estate; F. H. Cartwright, 24 houses, Hulton-lane; Barlow & Jones, extension to warehouse, Jones-street.

BOURNEMOUTH.—Plans passed by T.C.: House and shop, garages, &c., corner Charminster-avenue and Portland-road, Mr. Hunt; two houses, Lonsdale-road, Messrs. W. E. Jones & Son; nine houses and shops and six garages, Wimborne-road, Mr. C. R. Belbin; ten houses and two houses and shops, Wimborne-road, Mr. H. C. Barnes; block of shops and flats, Old Christchurch-road, Mr. C. G. Knight; additions, "Westwick House," Belle Vue-road, Miss Holland; alterations and additions, "Branksome Lodge," Alumhurst-road, the Trustees of the late Sir Ernest Cassel; additions, "Berkeley Hall," Cliff Cottage-road, Mr. E. Helyar; additions to bungalow, corner Seafield and Tuckton-roads, Messrs. F. A. Griggs & Sons; additions to house, King George-avenue, Mr. Blamers; additions to house, Iddesleigh-road, Mr. J. A. Neathercoate; conversion into shops and flat, 2, Somerset-road, Miss Thompson; additions to bungalow, Charminster-avenue, Mr. J. Brown; alterations and additions, 7, Stourcliffe-avenue, Mr. W. M. Stoate; shop, Old Christchurch-road, Mr. A. E. Page; alterations and additions, 236, Wimborne-road, Mr. J. Gough; additions to motor house, "The Southcliffe Hotel," Southcliffe-road, Mr. R. Duncan; additions to house, Paisley-road, Mr. G. Witt; additions to house, corner Stourcliffe and Pinecliffe-avenues, Mr. Taylor; additions to house and shop, Kimberley-road, Mrs. S. E. G. Ricketts; bungalow, Charminster-avenue, Capt. Whistler; shop and three lock-up garages, West Hill-road, Mr. H. C. Payne; motor house, "Beechwood," Harvey-road, Mr. J. O. Hunt; motor house, Pinecliffe-avenue, Mr. E. R. Saunders; bungalow, corner Charminster-avenue and Court-road, Mr. E. Jones; house and garage, corner Strouden-road east and Bushey-road, Messrs. E. M. Drewitt & Co.; house and garage, Strouden-road east, Mr. J. Wellstead; house, St. Alban's-avenue, Mr. A. Adams; house, Strouden-road east, Messrs. E. M. Drewitt & Co.; house, corner Burleigh and Watcombe-roads, Mr. C. B. Philpot; house, Seafield-road, Mr. H. Litchfield; house, Watcombe-road, Mr. C. B. Philpot; ten houses, Arnewood-road and Herberton-road, Mr. A. Rendall; two houses, Tuckton-road, Mr. H. Litchfield; house, Easter-road, Mr. S. G. Ward; house, corner Penrith-road and Beechwood-avenue, Mr. H. Kneller; house, Glenmore-road, Mr. G. Dolman; bungalow and motor house, Strouden-road, Mrs. M. M. Day; house, Shelton-road, Mr. T. O. Barrett; additions, "Merdon," Westbourne Park-road, Mr. A. H. Dunnill; two houses, Stamford-road, Mr. M. Sellick; house, Court-road, Mr. S. G. Ward; transformer substation, Roumelia-lane, The Bournemouth & Poole Electricity Supply Co., Ltd.; house, Hillbrow-road, Mr. A. H. Elcock; house, King George-avenue, Mr. R. G. Puckett; motor house, 11, Irving-road, Mr. Smith; house, East-avenue, Messrs. G. E. & W. R. J. Lambert; house, Elmes-road, Mrs. A. E. Bower; house, Ravine-road, Messrs. E. M. Drewitt & Co.; house, Beaufort-road, Mr. G. Smith; house and garage, Penrith-road, Mr. J. F. Ellen; house, Ravine-road, Mr. F. H. Butler; four houses, Pine road east, Messrs. Hiscock & Wareham; two houses, Burleigh-road, Mr. M. Sellick; conversion into two flats, 70, Southcote-road, Mrs. A. K. Lacey; house, Wadham-road, Mr. E. D. Duse; house, Surrey-road, Mrs. Bland; alterations and additions to stables, "Denbigh-lodge," Surrey-road, Mrs. Bland; house, Court-road, Mr. E. Mabey; house, Watcombe-road, Mr. A. Williams; house, Watcombe-road, Mr. C. B. Philpott; house, Watcombe-road, Mr. C. B. Philpott; house, corner Wentworth-avenue and Ravine-road, Mr. H. Goode; house, Strouden-road west, Mrs. R. Stone; house, Heytesbury-road, Mr. H. S. Yates; house, Green-road, Mr. C. W. L. Jensen; house, Somerley-road, Mr. C. W. L. Jensen; eight houses, Castlemain-avenue and Amesbury-road, Mr. H. B. Mudge; five houses, Oswald-road, Messrs. S. J. & V. F. Sheppard; bungalow, Queen's Park-avenue, Mr. A. W. Horne; house, Wentworth-avenue, Messrs. Butler & Nabney; house, Queen's Park-avenue, Mr. E. G. Grinlinton; bungalow, Delhi-road, Mr. H. C. Raven; bungalow, Bushey-road, Mr. H. Wormald; house, Lonsdale-road, Mr. A. W. Davies; house, Heathwood-road, Messrs. Hawkins, Bros.; house, Delhi-road, Mr. O. Stroud; house, corner Elmes and Comley-roads, Mrs. A. F. Marshall; additions, 36, Knyveton-road, Mrs. E. M. Wilshere; house, De Lisle-road, Mr. M. O. A. Beer; garage, workshop, &c., Cardigan-road, Messrs. J. & B. Stathers; house, Seafield-road, Mr. H. Litchfield; house, corner Highfield and Boundary-roads, Mr. C. Abbott; conversion into flats, 237, Christchurch-road, Mr. F. W. Denning; two flats, Arcadia-avenue, Mrs. Cook; house, Richmond-Park-road, Mr. W. J. T. Stacey; conversion into flats, 5, Rushton-crescent, Mr. H. Streeter; house, Clarence-Park-road, Mr. J. E. Langdon; house, Holdenhurst-road, Mr. J. J. Elkins; house, Browning-avenue, Mr. J. F. Ellen; house, The Avenue, Redhill Park, Mr. H. C. Barnes; house, Dingle-road, Mr. J. Newbury; house, Rosebery-road, Mr. B. Bascombe; five houses, Evelyn-road, Mr. H. Mitchell; bungalow, Mavis-road, Mr. S. G. Ward; seven houses, Hope-avenue, Mr. S. G. Ward; house, 62, Beaufort-road, Mr. H. C. Coates; house and shop, Charminster-avenue, Mrs. Beesley; house, Watcombe-road, Mr. H. Solomon; additions, Drill-hall, Portman-road, The Hampshire Army Territorial Association; two houses, Ensbury Park-road, Mr. C. Abbott; conversion into four flats, "Stourcliffe House," Ken-road, Mr. W. Hayward; four houses, Elmes-road, Messrs. Jones & Sims; five houses, Pine-road, Messrs. Kennedy's, Ltd.; conversion into flats, "Stafford Lodge," Crosby-road, Mrs. M. R. Smith; ten houses, Cowper-road, Mr. C. K. Habgood; alterations and additions to garage, 74, Richmond-Park-avenue, Mr. R. Keeping; bungalow, Namu-road, Messrs. G. H. Burt & Son; additions, "Highfield," Dean Park-road, Col. Bannatyne; house, Lonsdale-road, Mr. A. D. Lambert.

BROOMS.—The Durham C.C. forwarded to the Board of Education plans for a new Roman Catholic School for 150 children at Brooms, near Leadgate.

CHEADLE.—Plans passed by R.D.C.: Three bungalows in Caverswall Wood, for Mr. Lovatt; lock-up shop at Cookshill;, for Mr. T. Smith; alteration to house at Caverswall, for Mr. Hawkins; alterations to "Rising Sun Inn," Cheadle, for Messrs. C. Bunting, Ltd.; bungalow at Blythe Bridge, for Mr. R. Bednall; house, Whiston Bank, for Mr. R. Rainsford; bungalow at Wetley Moor, for Mr. H. Banks; bungalow at Brook-house-lane, Bucknall, for Mr. Mills; conversion of building at Tean, for Mr. W. Bradbury; bungalow, Gorsty-hill, Tean, for Mr. G. Malbon; outbuildings near Kingsley Holt, for Mr. Davall; bungalow at Washerwall, for Mr. Baskeyfield; bungalow and outbuildings at Wetley Moor, for Mr. S. Boldstone; bungalow at Chapel-street, Forsbrook, for Mr. S. Mawdesley.

DOVER.—Plans passed by T.C.: Workshop and lock-up shop at Ashen Tree-lane, for Capt. Noble, by Messrs. Worsfold & Wayward; alterations, 2, Limes-road, for Mr. S. H. Hillman. The T.C. has decided to accept the offer of Major Astor, M.P., to build, and to maintain at his own expense for two years, an adult dental clinic. The site, to be provided for the town, is near to the existing infant welfare clinic.

GELLYGAER.—Plans passed by U.D.C. for twenty houses at Deri, for Powell Duffryn Coal Co., subject to roadway being 18 ft. wide instead of twelve as proposed.——The U.D.C. has accepted £500 grant from the Miners' Welfare Committee in connection with recreation ground lay-out scheme for Bedlinog, and surveyor is preparing plans.

GRAYTHORP.—The E.C. of the Durham C.C. has submitted sketch plans for a new school for 150 children to the Board of Education, at an estimated cost of £1,875.

HAVERFORDWEST.—Plan passed by T.C.: House, opposite Belle Vue-road, for Mr. S. Frank.

ISLE OF WIGHT.—Over 50 acres of the Isle of Wight estate of the late Lord Alverstone is being developed as a garden village. Plans are out for over a hundred bungalow residences on modern lines, and the general scheme provides for tennis courts, a village hall, and public gardens.

ILKESTON.—Plans passed by T.C.: Factory, Awsworth-road, for Mr. A. Booth; house, Awsworth-road, for Mr. A. F. Bidnell; conveniences, "Bull's Head" public house, Little Hallam, for Messrs. Hansons, Ltd.; branch premises, Church-street, for the Ilkeston Co-operative Society.

KENDAL.—Plans passed by T.C.: Bungalow, Aynam-road, for Mr. Wm. O. Brown (architect, Mr. J. Stalker, Junr.); house and shop, Castle-grove, for Mrs. Ridgway (architect, Mr. G. Morland); house, Sedbergh-road, for Mr. Kenneth Webster (architect, Mr. G. Morland); lay-out of site for works and offices on Shap-road, for Messrs. Isaac Braithwaite & Son, Ltd., engineers (architect, Mr. H. E. Scarborough, Carlisle); alterations to sports pavilion, Parkside-road, for Messrs. Somervell Bros.; conversion of warehouse into flats, 97, Stricklandgate, for Mr. Foster Hodgson (architect, Mr. J. Hutton).

LEEDS.—Considerable extensions are to be made by the Leeds University in the department of agriculture. A recent contribution of £10,000 received from the late Mr. Walter Morrison, supplemented by a Treasury grant of £15,000 and a contribution of about £10,000 from the Yorkshire Council for Agricultural Education, has now made it possible for the University to consider the erection of new buildings, and the work will be put in hand shortly. A site of 190 ft. by 125 ft. on the University-road frontage of the University has been allotted.

MANCHESTER.—Plans passed: Conversion of premises into bank, No. 68, Hyde-road and Knutsford-road, Gorton; alterations to "Beswick Inn," No. 23, Rowland-street, Beswick; additions to bakery, Parrot-street, Clayton; conversion of house into shop and house, Hyde-road and Ashwood-avenue, Gorton; alterations to premises, 71, Fairfield-road, Openshaw; additions to works, Louisa-street, Openshaw; alteration to premises, 63, Cross-street and Ellesmere-street, Gorton; addition to works, Palmerston-street, Ancoats; addition to works, Howarth-street, Bradford; additions to works, Edward-street, Openshaw; additions to premises, 15, Oak-street, and Copperas-street, Shudehill; additions to dye works, Monsall-road, Newton Heath; offices and warehouse, 47–51, Mosley-street and Back George-street; alterations to premises, 30, Oldham-road, Miles Platting; alterations to works, Mark-lane and Pump-yard; alterations to shop, 85, Bury New-road, Cheetham; dwelling house, Polefield-road, Blackley; addition to house, 282, Waterloo-road, Cheetham; alterations to premises, Lime-street, Ebony-street, and Back Lime-street, Oldham-road; storage warehouse, Cross Keys-street and Addington-street; offices, the Parsonage, College Land and Parsonage-lane; manager's office, rest room, and lavatories to works, Chapter-street, Newton Heath; reinstating premises, 91, Great Ducie-street and John-street, Cheetham; house, Park-road, Crumpsall; alterations to premises, 37, Corporation-street and Macdonald's-lane; workshops to H.M. Prison, Southall-street, Cheetham; house, Hill-lane, Blackley; alterations to premises, 220, Bury New-road and Ashworth-street, Cheetham; offices, Hendham Vale Works, Hendham Vale; additions to premises, Victoria-street and Cateaton-street; house, Holland-road, Crumpsall; alterations to "Vine Inn," Kennedy-street; economiser house to Lloydfield Mills, Masonic-street, Ancoats; alterations to shop, 632, Stockport-road and Church-road, Longsight; offices and showrooms, Wilmslow-road and Rusholme-place, Rusholme; shop and house, Beresford-road and Montgomery-road, Rusholme; alterations to premises, 191, Upper Brook-street and Nelson-street, Chorlton-upon-Medlock; addition to house, 4, Lancaster-road, Didsbury; house, Melland Playing Fields, Mount-road, Gorton; additions to dancing academy, Brunswick-street, Chorlton-upon-Medlock; warehouse, Ducie street, Stockport-road, West Gorton; house, Macefin-avenue, West Didsbury; house, Sandy-lane, Chorlton-

* See also our List of Contracts, Competitions, etc.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	6
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6 ..	per yard cube	35	0
Add if in underpinning in short lengths	" "	7	6
Add if in floors 6 in. thick	" "	3	6
Add if in beams	" "	4	0
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	3	3

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	2	0	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	1
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	9	0
½ inch on flats in two thicknesses	" "	6	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	3

MASON.

York stone templates fixed	per foot cube	12	6
York stone sills fixed	" "	21	6
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	19	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails....	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5	3
Do. joists	" "	5	9
Do. roofs, floors and partitions	" "	6	3
Do. trusses	" "	8	3

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	38/-	44/-	50/-	80/-

		s.	d.
Flat centering for concrete floor, including struts or hangers .. "		50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.		¾"	1"	1¼"	1½"
Deal edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	4
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights ; average size	" "	3	9

DOORS.		1¼"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/8	1/9	2/0
Deal shelves and bearers	"	1/5	1/7	1/10
Add if cross tongued	"	2d.	2d	2d.

STAIRCASES.

		1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets		2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed		1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1½ in.	per ft. run.	0	9
Mahogany handrail ; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	17	0
Plain compound girders	"	20	0
Do. stanchions	"	23	0
In roof work	"	28	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints ..	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do. ..	"	2/4½	3/1	3/1[illegible]	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	51	0
Do. Do. in flats	"	49	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	10d.	1/6	1/9	3/1	3/10	
Do. service	"	1/5	1/11	2/3	3/6		
Do. soil	"						6/2
Bends in lead pipe	each					3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"				14/7	19/6	
Bib cocks and joints ..	"	6/4	9/7	15/4	41/-		
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	3
Do. Do. Sirapite	" "	2	6
Do. Do. Keen's	" "	3	6
Add sawn lathing	" "	1	5
Add metal lathing	" "	2	3
Portland cement screed	" "	1	10
Do. plain face	" "	3	0
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

21 oz. sheet plain	per foot sup.	0	9
26 oz. Do.	" "	1	1
Obscured sheet	" "	1	3
¼ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	11
¼ in. wired cast plate	" "	1	5

PAINTER.

Preparing, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece	2/- to 4/-	

* These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 11 should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

PROPOSED NEW BUILDINGS & OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council: E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

AUDENSHAW.—Plans passed by U.D.C.: Two houses, Droylsden-road, Mr. S. Hadfield; extension of workshop, Planet Foundry Co., Audenshaw; two houses, Kershaw-lane, Mr. A. Lomas; shop, Mrs. Shaw.

BEXHILL.—Plans passed by T.C.: Dwelling-house, Cooden-drive, by Mr. A. C. Morris Edwards, for Miss J. E. Bone; dwelling-house, Bedford-avenue, by Messrs. Stroud, for Mrs. F. M. Crawford; residence, Ninfield-road, by Mr. J. E. Maynard, for Mr. Leeson; detached house, Kewhurst-avenue, Cooden, by Mr. D. B. Sceats, for Mr. A. G. Seaward; bungalow, Mayolane, Sidley, by Mr. D. B. Sceats, for Mr. H. Gillam; bungalow, Wickham-avenue, by Messrs. R. W. Price & Sons, for Miss K. Williams; dwelling-house, Sutherland-avenue, by Mr. H. W. Hetherington Palmer, for Mr. F. Climpson; dwelling-house, De La Warr-road, by Mr. G. Cash, for Miss L. E. Frost; bungalow, Kewhurst-avenue, Cooden, by Mr. E. H. Gandy, for himself; bungalow, Gillham Wood-road, Cooden, by Mr. E. H. Gandy, for himself; detached house, Barnhornlane, by Messrs. Wall, Callow & Callow, for Mr. A. E. Swaffer; dwelling-house, Highlands Estate, Turkeyroad, by Mr. G. H. Gray, for Lieut.-Col. C. V. Isacke; residence, Hartfield-road, by Mr. J. H. Lye, for Mr. F. R. Swinburne; residence, Hever-crescent, by Mr. J. H. Lye, for Mrs. C. C. L. Druery; residence, Amherstroad, by Mr. J. H. Lye, for Mr. W. Shannon.

BLACKPOOL.—Plans passed by T.C.: Bungalow, Hemmingway, W. Schofield; house, Hesketh-place, G. H. Dewhurst; house, Leamington-road, P. Round; three houses and two garages, Westmoreland-avenue, B. Small; four houses, Rangway-avenue, H. H. Johnson; four houses, Rangway-avenue, H. H. Johnson; bungalow, Hemmingway, H. Schofield; seven houses, Handsworth-road, A. & E. Fielding; bungalow, Bank-avenue, J. England & Son; two houses, Dale-avenue, Bryning & Done; ten houses, Grenfell-avenue, E. Mason; two bungalows, Arlington-avenue, E. Farrar; two houses, Westmoreland-avenue, A. & H. Saltonstall; house, Boothley-road, C. Smith; six houses, Queensway, H. Wilkinson; six houses, Rothsay-road, A. E. Murdock; six houses, Rothsayroad, A. E. Murdock; three houses, Central-drive, J. Harrison; two houses, St. Anne's-road, L. Pilkington; two houses, Osborne-avenue and Queen Victoria-avenue, Suthers, Wilson & Randall; eight houses, King's-drive and King Edward-avenue, J. & T. Greenwood; two houses, Kirkham-avenue, E. R. Grimshaw; two houses, St. Annes-road, W. Briggs; two houses, Palatine-road and Bennett-avenue, G. Riley; two houses, Westfield-road, R. Marshall; bungalow, Piccadilly, —. Cooke; two houses, Warley-road, Holgate & Saxon; bakehouse, shops and flats, Newroad, Dewhurst & Rose, Ltd.; business premises, Henry-street and Field-street, —. Forbes; storeroom, Park-avenue, J. Hardiman; addition, 1, Bryan-road, W. Waller; alterations, "Newlands," Newton-drive, J. F. Keisall; additions, Rothsay-road, E. Chappell; alterations, Birley-street, Union Bank of Manchester, Ltd.; alterations, 61 & 63, Church-street, S.S., S. Whewell; additions, Bournemouth-road, T. Burton; stable and coach-house, Hawthorne-road, Williams & Co.; garage, 33, Whitegate-drive, Dr. Depree; house, Bournemouth-road, Mrs. S. A. McClean; two garages, 53, Withnell-road, G. Morrison; shop front, 150, Warbreck-road, W. Brown; two bungalows, Blisphamroad, Wetton & Williams; two houses and shops, Highfield-road, J. Hill; bungalow, Gloucester-avenue, Mrs. Sanderson; three bungalows, Bank-avenue, J. England & Son.

BOLTON.—Plans passed by T.C.: Mr. Wm. H. Orrell, eleven wash-houses and sculleries, Durban-road; Mr. J. T. Clemmet, garage, 58, Seymour-road; Mr. T. Bolton, two semi-detached houses, Belmont-road; Richard Ball, for alteration to garage, 8, Defence-street; David T. Orrell, garage, 131, Chorley Old-road; W. Barlow, garage, 69, Chorley Old-road; J. C. & F. Woods, pair houses, Church-road; T. Gleave, garage, Greenmount-lane; Leigh Bros., shop, Chorley-Old-road; W. R. Bleakley, house, Chorley New-road; Fred Graham, for tennis pavilion, Regent-road; E. & S. Street, Ltd., pair houses, St. Michael's-avenue; Redfern & Robinson, pair houses, Regent-road; Fred Bennett, house, Regent-road; L. Whalley, bungalow, Bradford-road; A. S. Woods, pair of houses, Easedale-road; Wm. Gornall & Son, pair villas, Carlton-road; Thomas Blakley, pair houses, Green-lane; J. H. Coope, house, Green-lane; F. S. Walker, house, Harper's-lane; G. W. Crompton, paint and ladder store, back Chorley New-road; J. Sharman & Sons, Ltd., extension to premises, "Sir Sidney Smith," Bridgman-street; Thomas Blakley, pair houses, Wigan-road; Bolton Spinning Co., Ltd., new roof to warehouse, Turner Bridge; Waterworks Dept., garage, Bark-street; J. C. & F. Woods, nine garages, Sefton-road; Joshua Taylor, Ltd., seven garages, off Radcliffe-road; Magee Marshall & Co., addition to premises, Stonehouse Farm; Knowles & Green, addition to works, Undershore Bleachworks; Joseph Uttley, 24 houses, Halliwell Lodge Estate; F. H. Cartwright, 24 houses, Hultonlane; Barlow & Jones, extension to warehouse, Jonesstreet.

BOURNEMOUTH.—Plans passed by T.C.: House and shop, garages, &c., corner Charminster-avenue and Portland-road, Mr. Hunt; two houses, Lonsdale-road, Messrs. W. E. Jones & Son; nine houses and shops and six garages, Wimborne-road, Mr. C. R. Belbin; ten houses and two houses and shops, Wimborne-road, Mr. H. C. Barnes; block of shops and flats, Old Christchurch-road, Mr. C. G. Knight; additions, "Westwick House," Belle Vue-road, Miss Holland; alterations and additions, "Branksome Lodge," Alumhurstroad, the Trustees of the late Sir Ernest Cassel; additions, "Berkeley Hall," Cliff Cottage-road, Mr. E. Helyar; additions to bungalow, corner Seafield and Tuckton-roads, Messrs. F. A. Grigg & Sons; additions to house, King George-avenue, Mr. Blamers; additions to house, Iddesleigh-road, Mr. J. A. Neathercoate; conversion into shops and flat, 2, Somerset-road, Miss Thompson; additions to bungalow, Charminster-avenue, Mr. J. Brown; alterations and additions, 7, Stourcliffe-avenue, Mr. W. M. Stoate; shop, Old Christchurch-road, Mr. A. E. Page; alterations and additions, 236, Wimborne-road, Mr. J. Gough; additions to motor house, "The Southcliffe Hotel," Southcliffe-road, Mr. R. Duncan; additions to house, Paisley-road, Mr. G. Witt; additions to house, corner Stourcliffe and Pincliffe-avenues, Mr. Taylor; additions to house and shop, Kimberley-road, Mrs. S. E. G. Ricketts; bungalow, Charminster-avenue, Capt. Whistler; shop and three lock-up garages, West Hill-road, Mr. H. C. Payne; motor house, "Beechwood," Harvey-road, Mr. J. O. Hunt; motor house, Pincliffe-avenue, Mr. E. R. Saunders; bungalow, corner Charminster-avenue and Court-road, Mr. E. Jones; house and garage, corner Strouden-road east and Bushey-road, Messrs. E. M. Drewitt & Co.; house and garage, Strouden-road east, Mr. J. Wellstead; house, St. Alban's-avenue, Mr. A. Adams; house, Strouden-road east, Messrs. E. M. Drewitt & Co.; house, corner Burleigh and Watcombe-roads, Mr. C. B. Philpot; house, Seafield-road, Mr. H. Litchfield; house, Watcombe-road, Mr. C. B. Philpot; ten houses, Arnewood-road and Herberton-road, Mr. A. Rendall; two houses, Tuckton-road, Mr. H. Litchfield; house, Easter-road, Mr. S. G. Ward; house, corner Penrith-road and Beechwood-avenue, Mr. H. Kneller; house, Glenmore-road, Mr. G. Dolman; bungalow and motor house, Strouden-road, Mrs. M. M. Day; house, Shelton-road, Mr. T. O. Barrett; additions, "Merdon," Westbourne Park-road, Mr. A. H. Dunnill; two houses, Stamford-road, Mr. M. Sellick; house, Court-road, Mr. S. G. Ward; transformer substation, Roumelia-lane, The Bournemouth & Poole Electricity Supply Co., Ltd.; house, Hillbrow-road, Mr. A. H. Elcock; house, King George-avenue, Mr. R. G. Puckett; motor house, 11, Irving-road, Mr. Smith; house, East-avenue, Messrs. G. E. & W. R. J. Lambert; house, Elmes-road, Mrs. A. E. Bower; house, Ravine-road, Messrs. E. M. Drewitt & Co.; house, Beaufort-road, Mr. G. Smith; house and garage, Penrith-road, Mr. J. F. Ellen; house, Ravine-road, Mr. F. H. Butler; four houses, Pine road east, Messrs. Hiscock & Wareham; two houses, Burleigh-road, Mr. M. Sellick; conversion into two flats, 70, Southcote-road, Mrs. A. K. Lacey; house, Wadham-road, Mr. E. D. Duss; house, Surrey-road, Mrs. Bland; alterations and additions to stables, "Denbigh-lodge," Surrey-road, Mrs. Bland; house, Court-road, Mr. E. Mabey; house, Watcombe-road, Mr. A. Williams; house, Watcombe-road, Mr. C. B. Philpott; house, Watcombe-road, Mr. C. B. Philpott; house, corner Wentworth-avenue and Ravine-road, Mr. H. Goode; house, Strouden-road west, Mrs. R. Stone; house, Heytesbury-road, Mr. H. S. Yates; house, Green-road, Mr. C. W. L. Jensen; house, Somerley-road, Mr. C. W. L. Jensen; eight houses, Castlemain-avenue and Amesbury-road, Mr. H. B. Mudge; five houses, Oswald-road, Messrs. S. J. & V. F. Sheppard; bungalow, Queen's Park-avenue, Mr. A. W. Horne; house, Wentworth-avenue, Messrs. Butler & Nabney; house, Queen's Park-avenue, Mr. E. G. Grinlinton; bungalow, Delhi-road, Mr. H. C. Raven; bungalow, Bushey-road, Mr. H. Wormald; house, Lonsdale-road, Mr. A. W. Davies; house, Heathwood-road, Messrs. Hawkins, Bros.; house, Delhi-road, Mr. O. Stroud; house, corner Elmes and Comley-roads, Mrs. A. F. Marshall; additions, 36, Knyveton-road, Mrs. E. M. Wilshere; house, De Lisle-road, Mr. M. O. A. Beer; garage, workshop, &c., Cardigan-road, Messrs. J. & B. Stathers; house, Seafield-road, Mr. H. Litchfield; house, corner Highfield and Boundary-roads, Mr. C. Abbott; conversion into flats, 237, Christchurch-road, Mr. F. W. Denning; two flats, Arcadia-avenue, Mrs. Cook; house, Richmond-Park-road, Mr. W. J. T. Stacey; conversion into flats, 5, Rushton-crescent, Mr. H. Streeter; house, Clarence-Park-road, Mr. J. E. Langdon; house, Holdenhurst-road, Mr. J. J. Elkins; house, Browning-avenue, Mr. J. F. Ellen; house, The Avenue, Redhill Park, Mr. H. C. Barnes; house, Dingle-road, Mr. J. Newbury; house, Roseberry-road, Mr. B. Bascombe; five houses, Evelyn-road, Mr. H. Mitchell; bungalow, Mavis-road, Mr. S. G. Ward; seven houses, Hope-avenue, Mr. S. G. Ward; house, 62, Beaufort-road, Mr. H. C. Coates; house and shop, Charminster-avenue, Mrs. Beesley; house, Watcombe-road, Mr. H. Solomon; additions, Drill-hall, Portman-road, The Hampshire Army Territorial Association; two houses, Ensbury Park-road, Mr. C. Abbott; conversion into four flats, "Stourcliffe House," Ken-road, Mr. W. Hayward; four houses, Elmes-road, Messrs. Jones & Sims; five houses, Pine-road, Messrs. Kennedy's, Ltd.; conversion into flats, "Stafford Lodge," Crosby-road, Mrs. M. R. Smith; ten houses, Cowper-road, Mr. C. K. Habgood; alterations and additions to garage, 74, Richmond-Park-avenue, Mr. B. Keeping; bungalow, Namu-road, Messrs. G. H. Burt & Son; additions, "Highfield," Dean Park-road, Col. Bannatyne; house, Lonsdale-road, Mr. A. D. Lambert.

BROOMS.—The Durham C.C. forwarded to the Board of Education plans for a new Roman Catholic School for 150 children at Brooms, near Leadgate.

CHEADLE.—Plans passed by R.D.C.: Three bungalows in Caverswall Wood, for Mr. Lovatt; lock-up shop at Cookshill, for Mr. T. Smith; alteration to house at Caverswall, for Mr. Hawkins; alterations to "Rising Sun Inn," Cheadle, for Messrs. C. Bunting, Ltd.; bungalow at Blythe Bridge, for Mr. H. Bednall; house, Whiston Bank, for Mr. R. Rainsford; bungalow at Wetley Moor, for Mr. H. Banks; bungalow at Brookhouse-lane, Bucknall, for Mr. Mills; conversion of building at Tean, for Mr. W. Bradbury; bungalow, Gorsty-hill, Tean, for Mr. G. Malbon; outbuildings near Kingsley Holt, for Mr. Davall; bungalow at Washerwall, for Mr. Baskeyfield; bungalow and outbuildings at Wetley Moor, for Mr. S. Boldstone; bungalow at Chapel-street, Forsbrook, for Mr. S. Mawdesley.

DOVER.—Plans passed by T.C.: Workshop and lock-up shop at Ashen Tree-lane, for Capt. Noble, by Messrs. Worsfold & Wayward; alterations, 2, Limesroad, for Mr. S. H. Hillman. The T.C. has decided to accept the offer of Major Astor, M.P., to build, and to maintain at his own expense for two years, an adult dental clinic. The site, to be provided for the town, is near to the existing infant welfare clinic.

GELLYGAER.—Plans passed by U.D.C. for twenty houses at Deri, for Powell Duffryn Coal Co., subject to roadway being 18 ft. wide instead of twelve as proposed.——The U.D.C. has accepted £500 grant from the Miners' Welfare Committee in connection with recreation ground lay-out scheme for Bedlinog, and surveyor is preparing plans.

GRAYTHORP.—The E.C. of the Durham C.C. has submitted sketch plans for a new school for 150 children to the Board of Education, at an estimated cost of £1,875.

HAVERFORDWEST.—Plan passed by T.C.: House, opposite Belle Vue-road, for Mr. S. Frank.

ISLE OF WIGHT.—Over 50 acres of the Isle of Wight estate of the late Lord Alverstone is being developed as a garden village. Plans are out for over a hundred bungalow residences on modern lines, and the general scheme provides for tennis courts, a village hall, and public gardens.

ILKESTON.—Plans passed by T.C.: Factory, Awsworth-road, for Mr. A. Booth; house, Awsworth-road, for Mr. A. F. Bidnell; conveniences, "Bull's Head" public house, Little Hallam, for Messrs. Hansons, Ltd.; branch premises, Church-street, for the Ilkeston Co-operative Society.

KENDAL.—Plans passed by T.C.: Bungalow, Aynam-road, for Mr. Wm. O. Brown (architect, Mr. J. Stalker, Junr.); house and shop, Castle-grove, for Mrs. Ridgway (architect, Mr. G. Morland); house, Sedbergh-road, for Mr. Kenneth Webster (architect, Mr. G. Morland); lay-out of site for works and offices on Shap-road, for Messrs. Isaac Braithwaite & Son, Ltd., engineers (architect, Mr. H. E. Searborough, Carlisle); alterations to sports pavilion, Parkside-road, for Messrs. Somervell Bros.; conversion of warehouse into flats, 97, Stricklandgate, for Mr. Foster Hodgson (architect, Mr. J. Hutton).

LEEDS.—Considerable extensions are to be made by the Leeds University in the department of agriculture. A recent contribution of £10,000 received from the late Mr. Walter Morrison, supplemented by a Treasury grant of £15,000 and a contribution of about £10,000 from the Yorkshire Council for Agricultural Education, has now made it possible for the University to consider the erection of new buildings, and the work will be put in hand shortly. A site of 190 ft. by 125 ft. on the University-road frontage of the University has been allotted.

MANCHESTER.—Plans passed: Conversion of premises into bank, No. 68, Hyde-road and Knutsford-road, Gorton; alterations to "Beswick Inn," No. 23, Rowland-street, Beswick; additions to bakery, Parrot-street, Clayton; conversion of house into shop and house, Hyde-road and Ashwood-avenue, Gorton; alterations to premises, 71, Fairfield-road, Openshaw; additions to works, Loulsa-street, Openshaw; alteration to premises, 63, Cross-street and Ellesmere-street, Gorton; addition to works, Palmerston-street, Ancoats; addition to works, Howarth-street, Bradford; additions to works, Edward-street, Openshaw; additions to premises, 15, Oak-street, and Copperas-street, Shudehill; additions to dye works, Monsall-road, Newton Heath; offices and warehouse, 47–51, Mosley-street and Back George-street; alterations to premises, 30, Oldham-road, Miles Platting; alterations to works, Mark-lane and Pump-yard; alterations to shop, 85, Bury New-road, Cheetham; dwelling house, Polefield-road, Blackley; addition to house, 282, Waterloo-road, Cheetham; alterations to premises, Lime-street, Ebony-street, and Back Lime-street, Oldham-road; storage warehouse, Cross Keys-street and Addington-street; offices, the Parsonage, College Land and Parsonage-lane; manager's office, rest room, and lavatories to works, Chapter-street, Newton Heath; reinstating premises, 91, Great Ducie-street and Johu-street, Cheetham; house, Park-road, Crumpsall; alterations to premises, 37, Corporation-street and Macdonald's-lane; workshops to H.M. Prison, Southall-street, Cheetham; house, Hilt-lane, Blackley; alterations to premises, 220, Bury New-road and Ashworth-street, Cheetham; offices, Hendham Vale Works, Hendham Vale; additions to premises, Victoria-street and Cateaton-street; house, Holland-road, Crumpsall; alterations to "Vine Inn," Kennedy-street; economiser house to Lloydfield Mills, Masonic-street, Ancoats; alterations to shop, 632, Stockport-road and Church-road, Longsight; offices and showrooms, Wilmslow-road and Rusholme-place, Rusholme; shop and house, Beresford-road and Montgomery-road, Rusholme; alterations to premises, 191, Upper Brook-street and Nelson-street, Chorlton-upon-Medlock; addition to house, 4, Lancaster-road, Didsbury; house, Melland Playing Fields, Mount-road, Gorton; additions to dancing academy, Brunswick-street, Chorlton-upon-Medlock; warehouse, Ducie street, Stockport-road, West Gorton; house, Macefin-avenue, West Didsbury; house, Sandy-lane, Chorlton-

* See also our List of Contracts, Competitions, etc.

rum-Hardy; 16 houses, Newport-road, Chorlton-cum-Hardy; additions to premises, 94–96, Barlow Moor-road, Chorlton-cum-Hardy; house, Wilbraham-road, Chorlton-cum-Hardy; additions to "The Gables," Manchester-road, Chorlton-cum-Hardy; addition to house, 106, Wilmslow-road, Withington; alterations to premises, 82–84, Barlow Moor-road, Chorlton-cum-Hardy; addition to Fallowfield Conservative Club, Mabfield-road and Langley-road, Rusholme; alterations to warehouse, 16, Oxford-street; alterations to premises, 103–105, Stretford-road, Hulme; conversion of house into flats, 424, Moss-lane East, Rusholme; billiard hall, Upper Chorlton-road, Moss Side; shops and billiard room, 32–49, Stretford-road, Hulme; alterations to premises, 14, Preston-street and Longworth-street, Hulme; brew house to Crown Brewery Renshaw-street, Hulme; offices, stands, &c., Manchester City Football Ground, Maine-road, and Kippax-street, Withington; shops, hall, and premises, Platt-lane, Yew Tree-lane, Lynton-street, and Tintern-street, Rusholme.

NEWTON ABBOT.—Plans passed by R.D.C.: Bungalow at Cowley Park, Moreton; bungalow at Huxner Cross, Kingskerswell, for Mr. O. Swanson; house in Cross-street, Moreton, for Mrs. E. L. Bailey; bungalow at Mount Pleasant, for Mr. J. West; bungalow at Bishopsteignton for Mr. W. Short; and house at Bovey, for Mr. W. Rhoades.

OXFORD.—Plans passed by T.C.: C. Raworth & Son, 79 and 80, St. Aldate's, workshop at north end of Bridewell-square, Speedwell-street; The Governing Body of the Warneford, Cheney-lane, addition of recreation room and dormitory block to ladies' wing of the Warneford Hospital; Lady Kennedy, St. Mary's Lodge, Kidlington, house on south side of Lonsdale-road extension; Messrs. J. H. T. Weatherby, 50, Norreys-avenue, and G. A. Hall, 32, St. Mary's-road, two houses on new estate south of Sunningwell-road; Geo. Weeks & Co., 4, Cornmarket-street, rebuilding their business premises; The Provost and Fellows of Oriel College, conversion of 9 and 10, King Edward-street into four residences; Wooldridge & Simpson, Frenchay-road, eight houses on north side of Baintonroad; J. R. Baffan, 28, Thorncliffe-road, house, Thorncliffe-road.

PONTYPRIDD.—The U.D.C. has received notification of a grant of £4,000 additional, for lay-out of public park.——The Graig ward welfare scheme to include a public hall and library has assumed definite lines; the secretary is Councillor Ben Davies, miners' agent.

ROMSEY.—Plans passed by R.D.C.: Bungalow at Newtown, Sherfield English, for Mr. James Smith; bungalow at Crawley Hill, East Wellow, for Mr. R. E. Street; bungalow at Windwhistle, East Wellow, for Mrs. Petty.

SOUTH SHIELDS.—Plans passed by T.C.: Mr. F. W. Newby for Mr. Wm. Skears, new shop front, 202, Ocean-road; Mr. G. R. Smith, for the Trustees of the United Methodist Church, Birchington-avenue, billiard and recreation room at rear of U.M. Church; Mr. H. Hill for Dr. R. M. Danks, motor garage and alterations, 11 and 13, Cleveland-street; Mr. H. Hill for Mr. R. P. Chipchase, rebuilding of premises at corner of Back Ogle-terrace and Back Albion-terrace; Messrs. T. A. Page & Son for Messrs. G. Thornton & Co., 25 semi-detached houses on building estate at corner of Cemetery-approach and Sunderland-road, Cauldwell; T. A. Page & Son for Mr. Hames, new shop front to premises corner of Hyde-street and Tennyson-street; Mr. J. H. Morton for Mrs. J. Burrows, new shop front, 2, Hampden-street, corner of Stanhope-road.

SURREY.—The C.C. has decided to proceed with a new arterial road from Kingston to Sutton, the estimated cost of which is £567,500.

SOUTH WALES.—The directors of the G.W.R. Co., at a meeting held on August 3rd, instructed proceeding with the following works: Glamorgan—Briton Ferry-road, completion of portion of hump yard, to enable shipment traffic for Swansea Docks to be dealt with by gravitation; Gowerton, construction of cattle pens sidings with independent approach road; Cardiff Docks—provision of floating pneumatic grain-handling plant, capable of discharging grain from ship to shore at maximum of 120 tons per hour; Monmouthshire—Cwmcarn, near Abercarn, provision of new station to serve developing mining district.

WOLVERHAMPTON.—Plans passed by T.C.: A. L. Blower, house, York-avenue; J. L. Wood, house, Richmond-road; C. W. J. Walton, house, Clark-road; C. Freeman, two villas, Clark-road; Freeman, Hardy & Willis, shop front, Queen-street; Star Tea Co., Ltd., shop front, 10 and 11, Queen-street; the Wolverhampton & Dudley Breweries, Ltd., improvements, "Wheatsheaf Hotel," Market-street; J. N. Miller, Ltd., grain storage tanks, Corn Hill; Wolverhampton Society for the Blind, workshop and lavatory, Waterloo-road; T. Thomas, house, Cooper-street; Chillington Tool Co., Ltd., dust exhaust and cyclone house, lavatory, oil and grease stores, Willenhall-road; Cleveland Casting Co., foundry, Hallets-row; S. G. Jones, bungalow, Compton-road; Wolverhampton & Dudley Breweries, Ltd., rebuilding "White Hart," Worcester-street.

WREXHAM.—The borough surveyor has been instructed to prepare a lay-out plan showing a new street, widening of King-street, and a new town hall and municipal buildings.

FIRES.

BATTLE.—A serious fire has occurred at Beauport Park, Battle, the residence of the late Sir Archibald Lamb.

BRADFORD.—A disastrous fire has occurred at Cannon Mills, Great Horton-road, owned by Messrs. Brooksbank.

MERTHYR.—The premises of Messrs. John Lewis, motor engineers, Merthyr and Cardiff, at Old Rink, Park-place, Merthyr Tydfil, were completely gutted by fire, and stock and building loss of estimated value £22,000 incurred.

NORTON MALTON.—As the result of a fire the picture house has been completely destroyed.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

*** Denotes accepted. † Denotes provisionally accepted.**
‡ Denotes recommended for acceptance.
§ Denotes accepted subject to modifications.

ABERDEEN.—For dredging of the navigation channel, for the Harbour Commissioners:—

*Tilbury Contracting and Dredging Co., London	£45,913 15

BIRTLEY.—For footpath flagging at Birtley, for the Durham C.C.:—

*Bolam, Simpson & Bolam, Birtley	£1,097 5

BISHOP AUCKLAND.—For improvements to heating apparatus at Girls' County School, for the Durham C.C.:—

*Brightside Foundry and Engineering Co.	£287 10

BOURNEMOUTH.—For paving in Wimborne and other roads, for the T.C.:—

*Limmer and Trinidad Lake Asphalte Co.	£16,411 10 0

BOURNEMOUTH.—For the construction of Boscombe promenade and other works, for the T.C.:—

*Anthony, Fasey & Son	£49,989 12 0

BOURNEMOUTH.—Supply of 120 lamp posts to T.C.:—

*J. J. Armfield & Co.	£395

BOURNEMOUTH.—For repairs and renovations at schools, for the T.C.:—

Moordown C. of E. Boys' School—	
*Jenkins & Sons	£143 0 0
Lansdowne Council School (A)—	
*Jenkins & Sons	96 0 0
Lansdowne Council School (B)—	
*Jenkins & Sons	132 0 0
Winton St. Luke's School—	
*Jenkins & Sons	114 0 0
Westbourne St. Ambrose School—	
*F. Spencer	49 8 0
St. Paul's School—	
*Binden & Son	116 0 0
Boscombe St. John's School—	
*H. C. Coates & Son	175 0 0

BRIDGEND.—For supply to U.D.C. of motor fire engine:—

Leyland Motors (Ltd.)	£1,525

CARDIFF.—For the erection of a depot at Velindra-road, Whitchurch, for the R.D.C. Mr. Wm. Farrow, engineer, 20, Park-place, Cardiff:—

Shall (Llandaff), Ltd., Llandaff, Glam.	£3,686 0 0
James Stephens, Cardiff	3,511 17 10
Knox & Wills, Ltd., Cardiff	3,500 0 0
Henry Jones, Cardiff	3,495 10 7
Bradford & Davies, Cardiff	3,344 0 0
S. & J. Williams, Cardiff	3,336 18 11
Newcombe & Co., Cardiff	3,190 0 0
E. R. Evans, Bros., Ltd., Cardiff	3,167 11 8
E. A. Bond & Co., Cardiff	3,075 0 0
Edwin Williams & Son, Whitchurch, Glam.	3,015 12 3
Thomas R. Evans, Cardiff	2,987 0 0
D. O'Neil, Cardiff	2,922 12 3
*John Harry, Radyr, Glam.	2,765 4 7

CASTLESIDE.—For tar paving playgrounds at Council School, for the Durham C.C.:—

*P. Harle, Sunderland	£255 4

CHELTENHAM.—For erection of 10 pairs of houses, for the T.C.:—

*W. Drew—5 pairs at	per pair £850
*H. Wilson & Sons Do.	,, 850

CHESTER-LE-STREET.—For sett paving on Great North-road, at Chester-le-Street, for the Durham C.C.:—

*Improved Road Constructions, Newcastle	£17,762 2 2

CHILTON FERRYHILL.—For general repairs at Chilton Ferryhill Station Council School, for the Durham C.C.:—

*G. W. Lazenby & Co.	£484 10

CORNFORTH LANE.—For pointing boundary walls, &c., at Council School, for the Durham C.C.:—

*W. & J. T. Bell, Coxhoe	£143 13

CROOK.—For general repairs to Council School, for the Durham C.C.:—

*J. H. Armory, Willington	£596

CROOKGATE BANK.—For sett paving on Gateshead—Burnopfield main road at Crookgate Bank, for the Durham C.C.:—

*Improved Road Constructions, Ltd., Newcastle	£2,146 18 0

DONCASTER.—For erection of pumping station at the Holmes, for the T.C.:—

*Edwards & Co. (Doncaster), Ltd.	£12,785 5 1

DONCASTER.—For erection of 75 houses on the Warmsworth-road site, for the T.C.:—

*W. & A. Forsdike, Ltd., Sheffield—	
20 A.N. houses	£6,830 0
19 A.N. houses	3,420 0
8 A.S. houses	2,752 0
6 C. houses	2,424 0
3 C. houses	1,207 10
28 C. houses	11,172 0

DOVER.—For painting and incidental work at Isolation Hospitals, Tower Hamlets, and Poulton, for the T.C. Mr. Wm. Boulton Smith, Borough Engineer, Maison Dieu House, Dover:—

G. Lewis & Sons (Dover), Ltd.	£597 0 0
T. W. Cole, Folkestone	525 18 6
Emery Bros., Dover	491 7 0
*H. Westley, Deal	245 19 0

DURHAM.—For asphalt surfacing on various main roads, for the Durham C.C.:—

*Highways Constructions, Ltd.	£46,164 5
*Limmer and Trinidad Asphalt Co.	29,906 5
*Whitehall Asphalt Co.	28,215 0
*Country Asphalt Co.	15,468 15

DURHAM.—For central heating installation at the Durham County Asylum, for the Visiting Committee:—

*John Musgrave & Son	£10,178

EASINGTON.—For general repairs and new ventilators at Easington-lane Council School, for the Durham C.C.:—

*T. Coates, Durham	£254 19

ELISABETHVILLE.—For installation of low pressure hot water system at Council School, for the Durham C.C.:—

*Steel & Co., Sunderland	£473 1 6

EPPLETON.—For repairs to playgrounds at Council School, for the Durham C.C.:—

*Whittingham Bros., Shadforth	£136 3

GELLYGAER.—For erection of bridge over railway at Gilfach, for the U.D.C.:—

*Barnes, Chaplin & Co.	£7,513 8

HAMSTERLEY COLLIERY.—For general repairs at Council School, for the Durham C.C.:—

*Ainsley Bros., Durham	£339 6 9

HAVERFORDWEST.—For constructing, for the T.C., a ferro-concrete road from Queen's Hotel to Bridgend-square:—

T. Hughes, Llanelly	£5,750 0 0
Standard Construction Co., Swansea	4,690 3 6
J. Morgan, Haverfordwest	4,266 16 4
Fothergill Bros., Exeter	4,265 0 0
*Watson & Horrocks, Bridgend	4,066 6 11

HULL.—For the erection of 26 houses on the Cottingham-road Estate, for the T.C. The City Architect, Architect's Office, Hull:—

*Stubbings & Fell, Sutton-in-Ashfield, Notts—	
24 houses	per house £350
2 houses	,, 320

(Accepted subject to confirmation by the Ministry of Health.)

ILKESTON.—For painting schools, for the T.C.:—

*H. Rainbow (*Hallam Fields*)	£189 0
*W. Bee (*Hallcroft*)	129 6
*W. Bee (*Chaucer-street*)	97 15

ILKESTON.—For alterations to heating apparatus at Hallcroft School:—

*T. Danks & Co.	£29

LEEDS.—For works in connection with construction of farm buildings and conversion of stable buildings into refreshment rooms on Temple Newsam Estate, for the T.C.:—

Electric lighting (including fittings), refreshment rooms—

*S. Dixon & Son, Ltd.	£159 16 6

Electric lighting (including fittings), mistals, dairies, &c.—

*S. Dixon & Son, Ltd.	91 1 0

Tiling, refreshment rooms and lavatories—

*A. Whitehead	971 5 11

Sanitary goods, lavatories, &c., to refreshment rooms, and dressing rooms—

*Hinchliffe Green Manufacturing Co., Ltd.	653 16 4

Heating, refreshment rooms—

*Central Heating Co.	485 0 0

Domestic hot water supply, refreshment rooms—

*H. Braithwaite & Co., Ltd.	330 0 0

LEEDS.—For erection of offices for Armley and Bramley Board of Overseers:—

*Appleyard Bros.	£2,100

LEEDS.—Erection of lodge at Dewsbury-road Reservoir, for the T.C.:—

*J. Ferguson	£780 10

LEEDS.—For painting at Holbeck Cemetery, for the T.C.:—

*C. & L. Greenwood	£110 10 6

LLANDILO.—For construction of drain and sedimentation tank at Cwmtyrch, for R.D.C.:—

*O. L. Rees, Brynamman	£432 4 3

LLANDILO.—For works in connection with Bettws water supply, for R.D.C.:—

*Owen & Rogers, Llandilo	£690 10 9

LIVERPOOL.—For painting railings, &c., at Sefton Park, for the T.C.:—

*Fryer & Hill	£1,234

LIVERPOOL.—For supply of (*a*) sluice valves, and (*b*) sluice valves, for Oswestry new filter beds, for the T.C.:—

*(*a*) Olley & MacLellan	£540 0
*(*b*) J. Blakeborough & Son	570 12

LIVERPOOL.—For painting railings, shelters, &c., at Stanley Park, for the T.C.:—

*J. Jones, Birkenhead	£1,765

LIVERPOOL.—For erection of conveniences at Smithy-lane Recreation Ground:—

*Roberts & Sloss	£306

LIVERPOOL.—For demolition of existing buildings and erection of 60 tenement dwellings, Prince Edwin-street, for the Corporation. Mr. F. E. G. Badger, Director of Housing :—

	Firm price tender not subject to variation as result of fluctuations in rates of workmen's wages and/or cost of materials.	Contract price variable as result of alterations in rates of workmen's wages, but not subject to variation as result of fluctuations in cost of materials.	Amount allowed for old materials in demolition.	Time periods for completion.
*William Hall & Son	£29,995	—	£3,217	16 weeks, 12 weeks and 16 weeks.
J. & G. Chappell	30,529	£30,529	350	No time stated.
Brown & Backhouse	30,594	30,594	300	No time stated.
Hughes & Stirling	30,650	30,650	Nil	No time stated.
Wm. Tomkinson & Son	31,431	Fluctuation wages, less 5 per cent. and plus 5 per cent.	Nil	To be arranged.
Haugh & Pilling	31,873	Wages variation, plus 5 per cent.	Nil	No time stated.
Roberts & Sloss	31,954	Fluctuation wages, less 5 per cent. and plus 5 per cent.	Nil	To be arranged.
R. Costain & Sons	31,995	£31,995 to be allowed 5 per cent. variation.	223	26 weeks, 30 weeks and 34 weeks.
Rimmer Bros.	32,035	Wages, plus 5 per cent.	Nil	No time stated.
Unit Construction Co., Ltd.	32,410	32,410	40	26 weeks, 26 weeks and 26 weeks.
S. Duthie & Son	33,048	—	Nil	No time stated.
J. Hall & Co.	33,270	33,270	Nil	20 weeks, 15 weeks and 20 weeks.
T. G. Huxley	33,400	—	Nil	No time stated.
C. & J. Desoer	34,799	—	509	30 weeks, 24 weeks and 30 weeks.
J. Laing & Son, Ltd.	34,980	—	Nil	No time stated.
J. Gerrard & Sons, Ltd., Manchester	38,300	—	Nil	No time stated.

LIVERPOOL.—For constructing paths, fences, &c., for 392 houses on Edge-lane Drive and Walton Clubmoor Estates :—

*Unit Construction Co... £18 13s. 9d. per house

LIVERPOOL.—For electric installations in 150 houses on the Edge-lane Drive and the Walton Clubmoor Estates, for the T.C. :—

*Western Engineering Co., Liverpool—
For 75 houses, at £7 17s. per house for Type "A," and £8 11s. 6d. for Type "B."

*H. Jones, Liverpool—
For 75 houses, at £7 18s. per house for Type "A," and £8 14s. per house for Type "B."

LIVERPOOL.—Demolishing buildings and roofing over site, at Albion-place, Old Haymarket, for the T.C. :—

*Dyer Bros. £150

LIVERPOOL.—For cleaning and painting 11, Hatton-garden, for the T.C. :—

*W. & A. Piercy £147

LIVERPOOL.—For erection of switch house, at Hunts Cross, for the T.C. :—

*J. Williams (Liverpool), Ltd. £558

LONDON.—For redecorating men's first-class bath hall, for the St. Marylebone B.C. :—

C. Tavener & Son	£494 0
F. Mark	476 0
J. Simpson & Son	457 0
*Waring & Gillow, Ltd.	397 15

LONDON.—For construction of new intake dock upon the Regent's Canal, for the St. Marylebone B.C. :—

*H. Sabey & Co. (not exceeding) £2,539

LONDON.—Supply of galvanised mild steel cast-iron pipe work to the St. Marylebone B.C. :—

*Aiton & Co., Derby £778 15

LONDON.—For supplying and fixing 96 chimney pots to the flats on Brookfield Estate, for the St. Pancras B.C. :—

J. W. Falkner & Sons	£314 0
Howell J. Williams, Ltd.	305 0
*Albert Monk, Edmonton, N.9	286 10

LONDON.—For supplying and laying a 36 in. cast-iron condensing water main at the King's-road Power Station with an outlet into the Regent's Canal, for the St. Pancras B.C. :—

D. G. Somerville & Co.	£4,247 0 0
John Gill, Ltd.	3,500 0 0
Cheesums, Ltd.	2,911 0 0
John Mowlem & Co.	2,733 4 7
*George Bell & Sons, Ltd., N.19	2,589 0 0

LONDON.—For erection of dwellings and road work at White Hart-lane Estate, for the L.C.C. :—

Arthur Vigor, Ltd., Knightsbridge, S.W.1	£37,023 6 4
L. H. & R. Roberts, E.	35,900 0 0
Holliday & Greenwood, Ltd., S.W.	34,750 0 0
T. Wood & Sons (Luton), Ltd., Luton	34,663 0 0
J. E. Billings & Co., Ltd., W.	34,615 0 0
A. Monk, Lower Edmonton	34,208 0 0
Fred & T. Thorne, Isle of Dogs	33,668 19 0
S. E. Moss, Southend-on-Sea	32,699 3 9
Allen Fairhead & Son, Enfield	31,820 0 0
C. Miskin & Sons, Ltd., W.C.	31,766 0 0
Walter Lawrence & Sons, E.C.2	31,626 0 0
Thomas & Edge, Woolwich	31,585 0 0
*Rowley Bros., Wood Green, N.	30,690 0 0

LONDON.—For the construction of the chimney shaft and foundations at Tunnel-avenue depot, in connection with the refuse disposal plant, for the Greenwich B.C. :—

J. T. Tattersall	£2,050 0 0
S. P. Bidder & Co.	1,972 16 6
Poulton & Son	1,865 0 0
W. Mills & Sons	1,797 0 0
Topping & Leggat	1,794 0 0
Thomas & Cockin, Ltd.	1,710 0 0
Custodis (1922), Ltd.	1,704 17 9
*P. C. Richardson & Co.	1,638 10 0
Chimneys, Ltd.	1,619 0 0

LONDON.—For the asphaltic repaving of portion of King-street, for St. Pancras B.C. :—

Names of Tenderers.	Prices. Maintenance— Yard super.	Free. Years.	Further. Years.	Yard super. At d.	Trenches. Yd. super. s. d.
The Limmer & Trinidad Lake Asphalt Co., Ltd. (Rock Asphalte)	13 0	2	8	6	32 0
Val De Travers Asphalte Paving Co., Ltd. (Rock Asphalte)	12 6	2	8	6	30 0
The London Asphalte Co., Ltd. (Mastic)	11 9	2	8	6	30 0
French Asphalte Co., Ltd. (Rock Asphalte)	14 0	2	10	5	33 0
The Neuchatel Asphalte Co., Ltd. (Mastic)	13 3	2	8	6	32 6
Constable Hart & Co., Ltd. (Aztecmac)	9 0	5	5	3	25 0
*Whitehall Asphalt & Engineering Co., Ltd., (Duraphalt)	9 3	6	3	3	17 6

LONDON.—For the erection of 50 houses, in two sections of 28 and 22, on the No. 3 Section of the Council's Housing Site at Charlton, for the Greenwich B.C. :—

	28 Houses.	Completion Weeks.	22 Houses.	Completion Weeks.
Mr. E. Jackson	£20,298 4 4	60	£15,971 14 3	50
Messrs. Douglass Halse & Co., Ltd.	20,263 0 0	30	16,024 0 0	30
Messrs. F. & T. Thorne	19,800 2 1	28	15,477 6 8	22
The Guild of Builders (London), Ltd.	—	—	15,576 9 0	44
Messrs. Thatcher & Pritchard	—	—	14,216 0 0	48
Messrs. J. W. Ellingham, Ltd.	†18,637 0 0	35	†14,606 0 0	35
Messrs. Dillway & Elvy Hilliway	*18,363 18 0	28	*14,376 15 7	22
Messrs. Thomas & Edge	17,710 0 0	28	13,850 0 0	24
Mr. Charles Thompson	16,661 12 8	65	13,096 15 2½	65
*Mr. A. G. Winter, South Norwood, S.E.25	*16,288 0 0	40	*12,823 0 0	40

*1 per cent. reduction if accepted for whole of houses. †5 per cent. reduction if accepted for whole of houses.

LONDON.—For resurfacing portion of carriageway in Portland-road, for the Kensington B.C. :—

*Whitehall Asphalte & Engineering Co... 6s. 6d. per yard super. and maintenance for six years.

LONDON.—For the erection of subsidiary buildings at Tunnel-avenue depot, in connection with the refuse disposal plant, for the Greenwich B.C. :—

W. Mills & Sons	£2,295
*H. H. Hollingsworth & Son	2,070

LONDON.—For erection of sanitary convenience at Charlton Cemetery, for the Greenwich B.C. :—

Wm. Mills & Sons (builders and contractors), Ltd.	£287
W. Harris	284
Barnes & Co.	255
*A. W. Pelling, Catford, S.E.6.	241

LONDON.—For laying two-coat Trinidad asphalt macadam, 4 in. deep, in several streets, for the St. Marylebone B.C. :—

*Limmer and Trinidad Lake Asphalt Co.—
In Clipstone-street, at 15s. 3d. per sq. yd.; Percy-street, 15s. 6d.; Barrett-street, 15s. 3d.; and Foley-street, 14s. 9d., with full maintenance for five years.

MANCHESTER.—Tenders accepted for the Corporation :—

For erection of a boiler house at Moss Side Baths—
J. H. Billings & Co.

For providing and fixing Galloway boiler at Prymestreet Baths—
Galloways, Ltd.

For painting, &c., interior of first-class swimming baths at New Islington Baths—
J. Gibbons.

For alterations to public wash-house at Mayfield Baths—
C. H. Normanton & Son, Ltd.

For the Cleansing Committee—
Lime—Buxton Lime Firms Co., Buxton.
Castings—The Gosforth Foundry Co., Ltd., Sheffield.
Thomson & Bradley.
Bolts and Nuts—Richard Davies & Son.
Paints—The Manchester Paint & Varnish Co., Ltd.

For electric lighting of various schools—
Ross-place—Power & Lighting Supplies, Ltd.
Varna-street—Hall & Stinson, Ltd., Sheffield.
Whalor-street—Ward & Booth.
Elysian-street—R. S. Miller.
Collyhurst and Cheetham—Maitland & Co.
Alfred-street—Power & Lighting Supplies, Ltd.
Elmfield-road—Manchester Electrical Maintenance Co.

For alterations to closets and drains at Christchurch School, Bradford, Manchester—
J. W. Billings.

For new boiler at St. Anne's, Newton Heath—
Turton & Sons.

For timber for Handicraft Centres—
Geo. Evans & Sons, Ltd.

For supply and delivery of pressure testing equipment for Electricity Committee—
Ferrante, Ltd., Hollinwood.

C.I. troughs for coke conveyor at Gaythorn Gas Works—
West's Improvement Co., Ltd.

For cleaning and painting gas holder at Gaythorn—
Pickles, Ayland & Co., Ossett.

For cleaning and painting gas holder at Bradford—
Bidder Steeplejack & Contracting Co.

For rack and pinion valves—
Bryan Donkin & Co., Ltd., Chesterfield.

NOTE.—Manchester firms unless otherwise stated.

MARYPORT.—For erection of bridge at Maryport for the Cumberland C.C. :—

*Border Engineering Contractors, Ltd. £3,356

NUNHEAD.—With reference to the rebuilding of "The Albion," Gibbon-road, reported in our issue of July 20, the architect for the work is Mr. A. E. Sewell, M.S.A.

OXFORD.—For the reconstruction and widening of Seacourt Bridge, and the widening and deepening the stream at the bridge, for the T.C. :—

A. E. Farr, London	A.	£6,106 0 0
Do. do.	B.	5,806 0 0
Davidson & Sykes, London	A.	6,469 2 2
Do. do.	B.	6,809 2 2
Frank Bevis, Ltd., Portsmouth	A.	8,920 15 0
Do. do.	B.	9,070 15 0
Kinnear, Moodie & Co., Hammersmith	A.	9,767 10 10
Do. do.	B.	7,967 10 10
Concrete Piling Co., Westminster	A.	6,751 1 1
Do. do.	B.	6,707 11 1
*Stewart & McDonnell, Westminster	A.	5,074 11 3
Do. do.	B.	5,154 11 3
Kirk & Randall, London	A.	5,703 1 6
Do. do.	B.	5,628 1 8
Nott, Brodie & Co., Ltd., Bristol	A.	— —
Do. do.	B.	7,905 2 8
Christiani & Nielsen, S.W.	A.	5,971 18 4
Do. do.	B.	5,919 18 4
Playfair, Toole, Ltd., Southampton	A.	9,429 7 6
Do. do.	B.	9,579 7 6
J. & W. Stewart, London	A.	7,437 14 11
Do. do.	B.	— —
D. G. Somerville, Ltd., London	A.	7,228 0 0
Do. do.	B.	7,332 0 0

(Tender "A" provides for Raymond piles, and "B" for reinforced concrete piles.)

RYHOPE COLLIERY.—For repairs to roofs, chimneys, &c., at Ryhope Colliery Infants' Council School, for the Durham C.C. :—
*C. Humble..... £407 3 7

SALFORD.—Supply and fixing of hot water heating apparatus at Wellington-street Girls' School, for the T.C. :—
*Elliott, Ellis & Co., Manchester..... £256

SALFORD.—For painting exterior of Frederick-road works and offices, for the T.C. :—
*H. R. Worsnip & Son £389 15

SALFORD.—For erection of the undermentioned buildings at Nab Top Sanatorium, for the T.C. :—
*Mark Warrington, Ltd., Hyde—
Doctor's house £1,800 0 0
Garage, mortuary, &c., block 763 0 0
Shelters 840 7 6

SALFORD.—For supply of 600 tons of black mountain lime to the T.C. :—
*Midland Builders' Supply, Leamington £937 10

SALFORD.—Supply and fixing on seatings, and connecting up of three new steel Lancashire boilers, each 30 ft. long by 8 ft. diameter, and the supply and erection of three mild steel chimneys, two boiler feed pumps, three injectors, two cast-iron feed water tanks, piping, hangers, damper operating gear, &c., and all boiler fittings at the Regent-road Gas Works, for the T.C. :—
*Yates & Thom, Blackburn..... £6,090

SEAHAM HARBOUR.—For recovering flat roofs and repairs to Council Schools, for the Durham C.C. :—
*J. & T. Parker, Sunderland.... £738 3 1

SHERBURN HILL.—For providing ventilating stoves at boys' school, for the Durham C.C. :—
*Whittingham Bros. £125 10

SITTINGBOURNE.—For erection of oak fence round Cemetery extension, for the U.D.C. :—
*C. Debnam, Guildford..... £460 16 7

SOUTH SHIELDS.—For foundations to new boilers at Electricity Works, for the T.C. :—
*G. Bailey & Co. £4,422 18 10
(Tender previously accepted withdrawn.)

SOUTH SHIELDS.—For cleaning and painting of schools, for the T.C. :—
*G. H. Thirkell—Stanhope-road B., G. & I. School (inside only)..... £320 0
*J. J. Miller—Westoe Secondary School 240 0
*C. Lea—Dean-road School 173 10
*J. J. Miller—Westoe B. & G. School and extension (inside only).... 154 0
*R. C. Hill—Ocean-road Junior School 134 10
*C. Lea—Mortimer-road Infants' School (inside only) 94 0

TILBURY.—For erection of 118 houses, for the U.D.C. :—
*G. Slade & Co. £41,817

WEST BOLDON.—For sett paving on Gateshead-Sunderland main road at West Boldon, for the Durham C.C. :—
*J. W. White, Sunderland..... £3,316 18 6

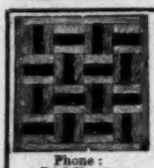
WOLVERHAMPTON.—Erection of boundary wall at Commercial-road power station, for the T.C. :—
*A. M. Griffiths..... £279

WOLVERHAMPTON.—Erection of glazed brick divisions to fish stalls in retail market, for the T.C. :—
*R. Speake & Sons..... £214

WOLVERHAMPTON.—Hot-water heating boilers at (*a*) Secondary School; and (*b*) Dunkley-street centre, for the T.C. :—
*Jones & Attwood.....(*a*) £115 (*b*) £54

WOLVERHAMPTON.—For repairs to playgrounds at (*a*) Dudley-road School; and (*b*) Bingley-street School, for the T.C. :—
*Val de Travers..(*a*) £197 11 6 (*b*) £167 17 6

The annual outing of the staff of Messrs. Stevens & Co., Silica Brick Works, Kidwelly, was held recently by some 300 members journeying to Aberystwyth. There Sir Alfred Stevens, chairman of directors, and Lady Stevens, entertained them.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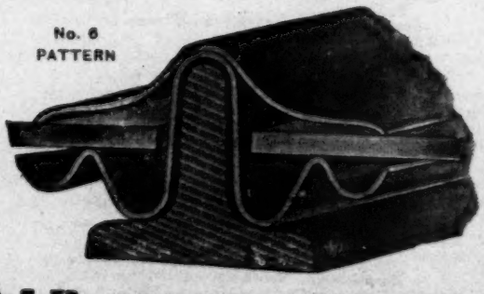
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